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US 2001/0021950 A1

(58) Field of Search

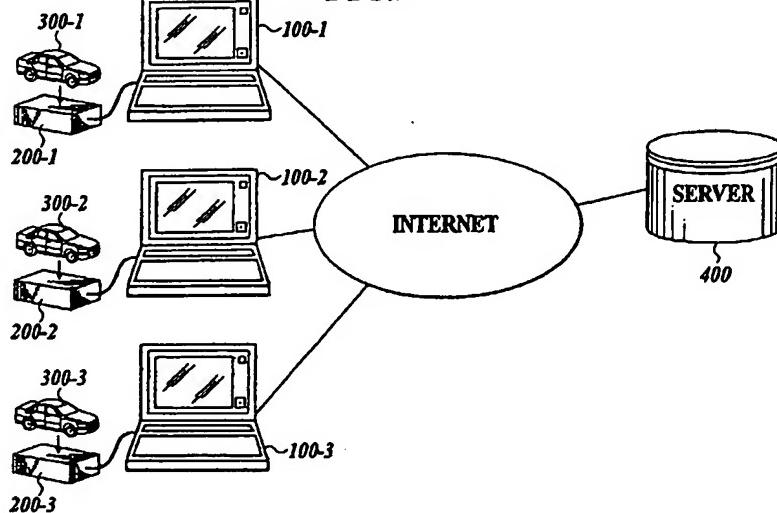
INT CL<sup>7</sup> A63H , G06F 15/173  
Online: EPODOC, WPI, PAJ, TXTE

(54) Abstract Title

Toy and information service system

(57) An information service system comprises a toy 300 storing toy information, a reader 200 for detecting the toy information transmitted by the toy 300 via a contact-less data carrier system and an information service device 100. Information service device 100 can output related information about the toy 300 to the user from an external storing section in accordance with the toy information detected by the reader 200. This may take the form of a server 400 and network system, possibly the Internet. The information preferably takes the form of images or sound, and preferably an Internet homepage. The reader 200 may comprise an interrogator and a memory, with a responder being provided in the toy to form the contact-less data system. The toy may also store accounting information which may determine the information that can be accessed and may have a storing section and control section in order to output the correct information. The toy may be shaped to remind a user of a network provider.

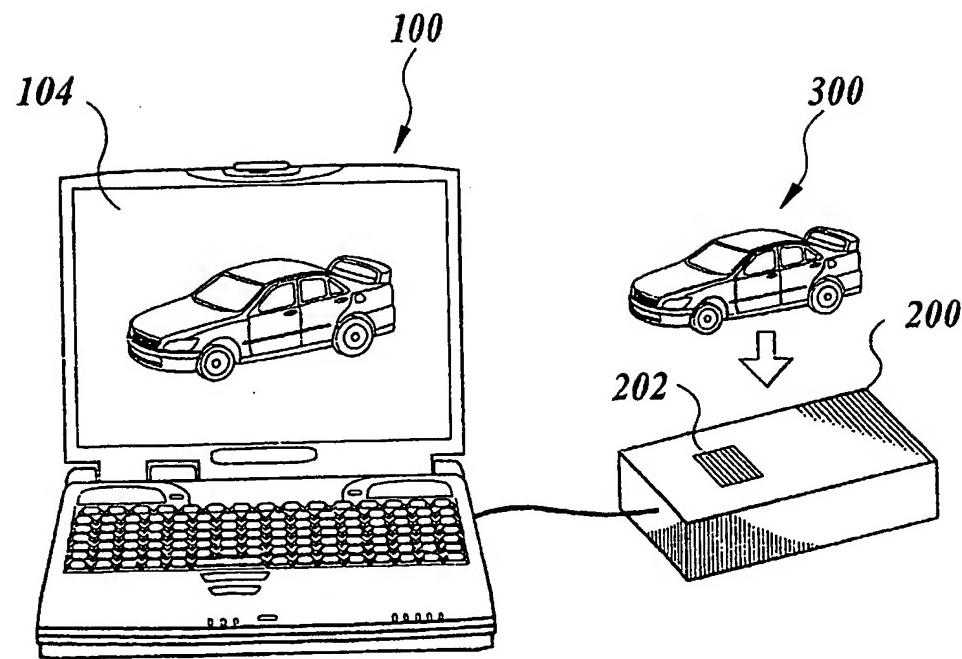
FIG.2



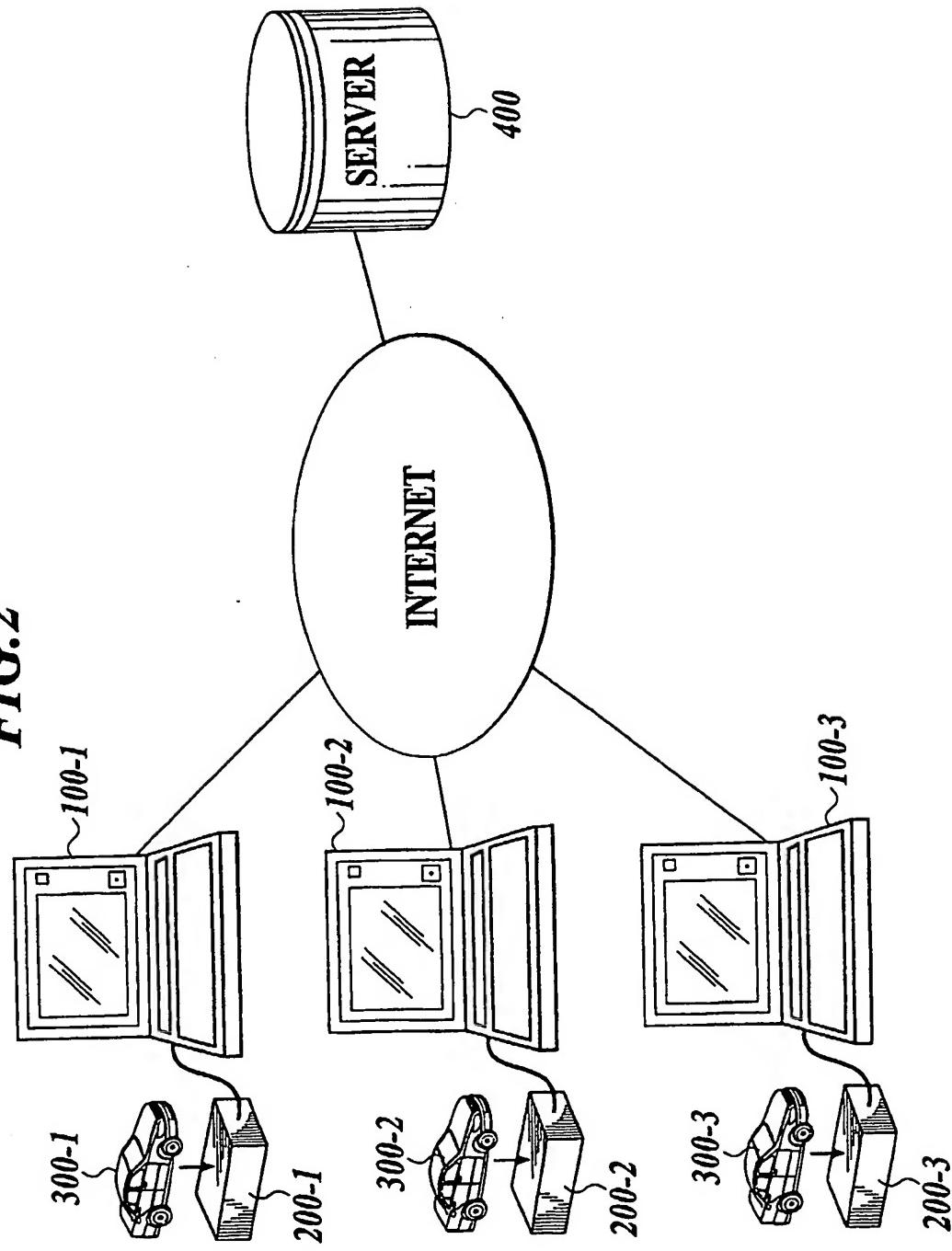
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***FIG. 1***

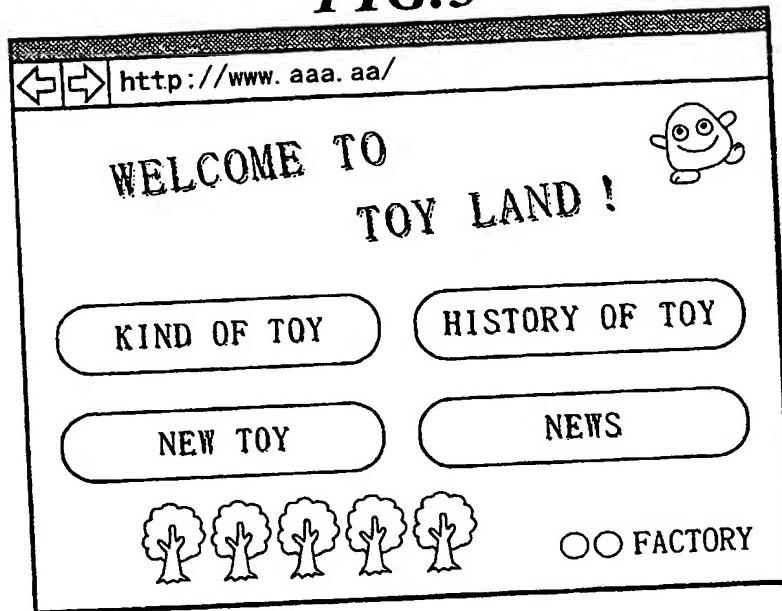


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**FIG.2**

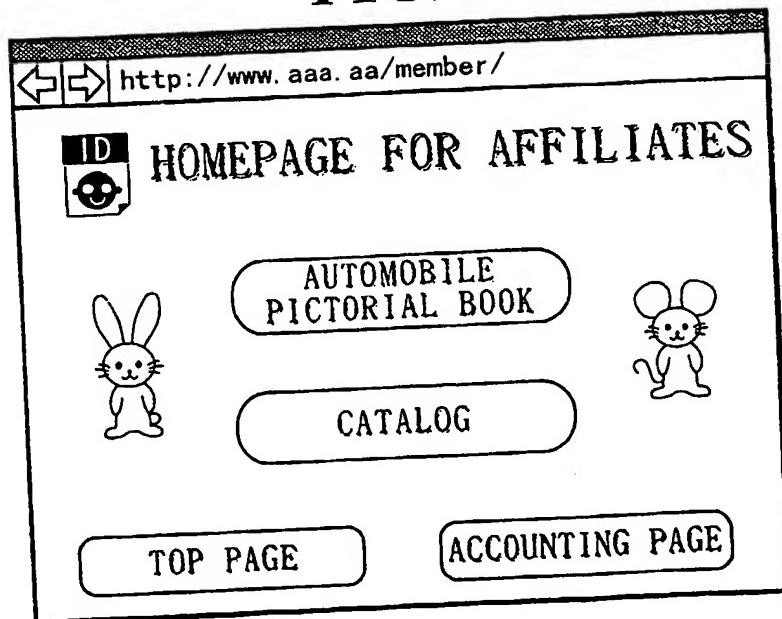


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**FIG.3**



**FIG.4**



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FIG.5

<http://www.aaa.aa/member/pay/drivin/>

## AUTOMOBILE PICTORIAL BOOK

VARIOUS  
AUTOMOBILES

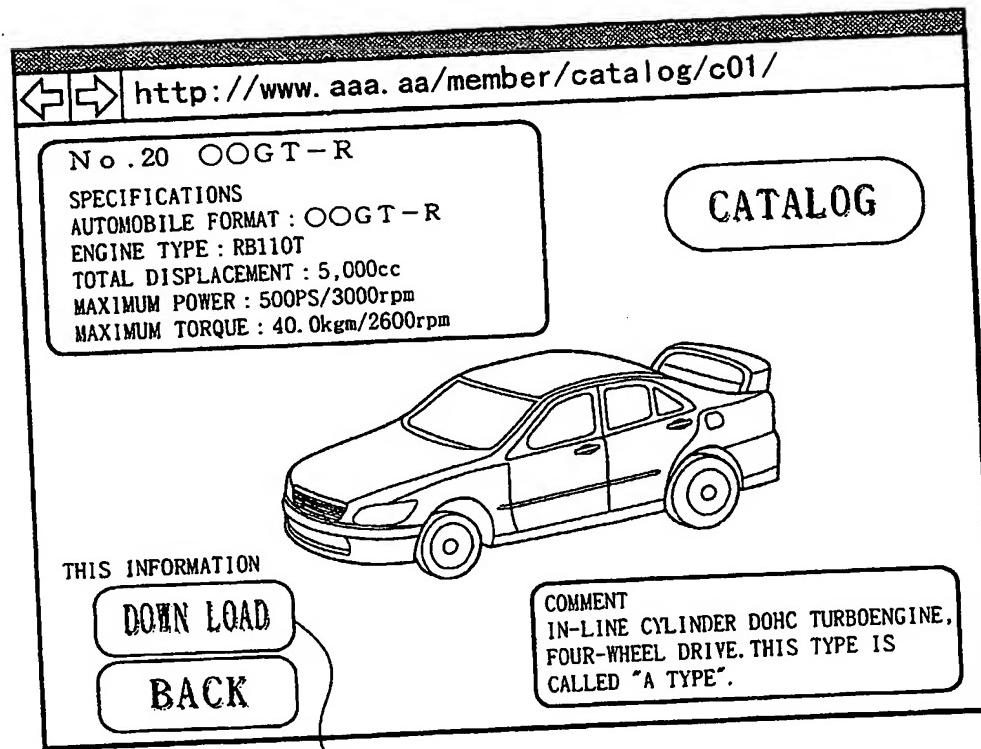
AUTOMOBILE FOR  
CONSTRUCTION

AUTOMOBILE FOR  
CARRYING THINGS

BACK

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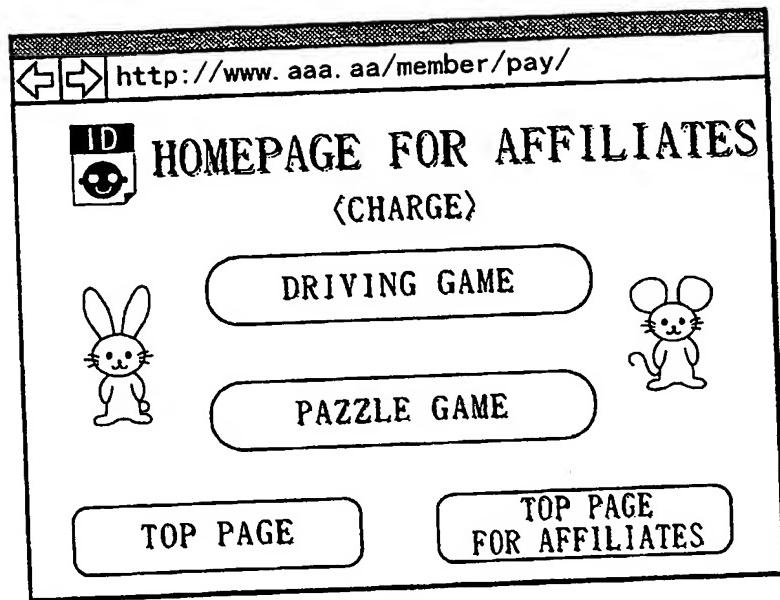
## FIG.6



500

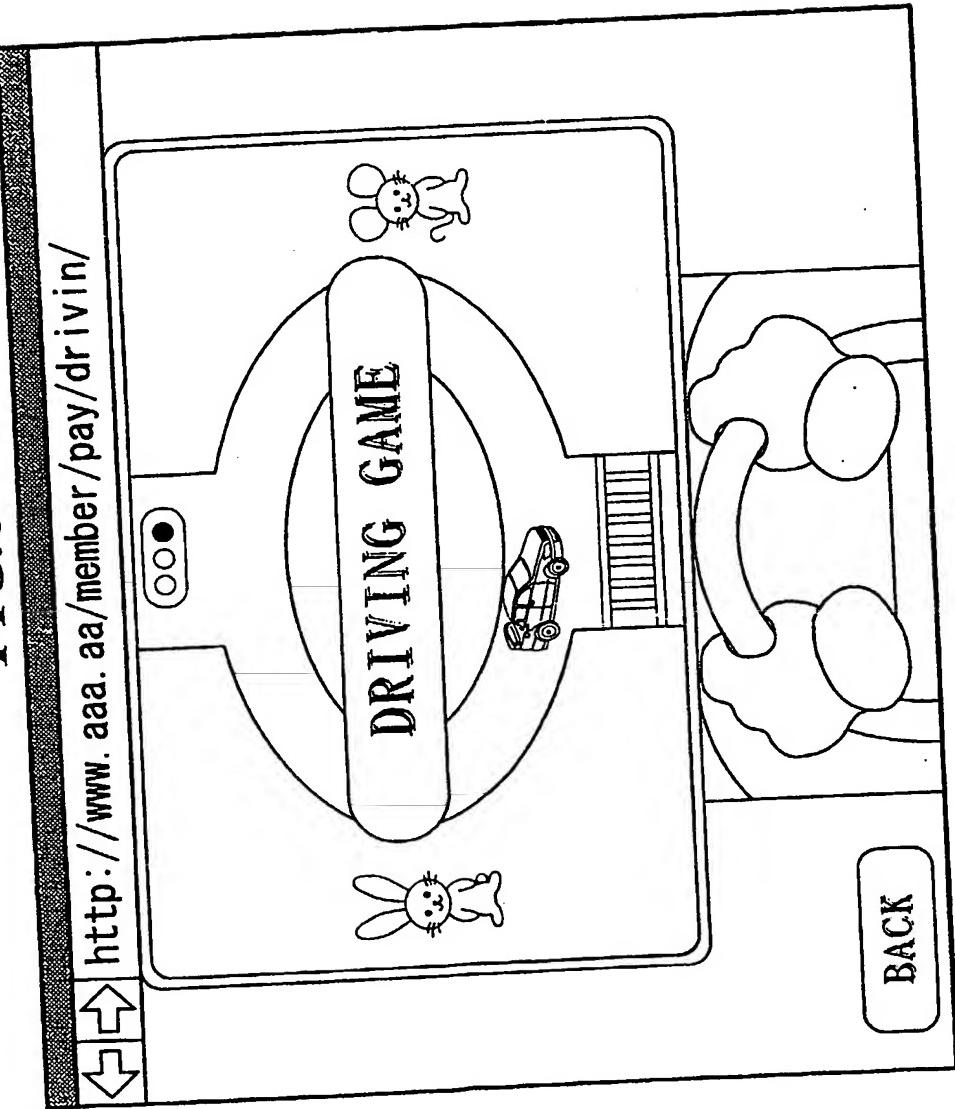
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**FIG. 7**



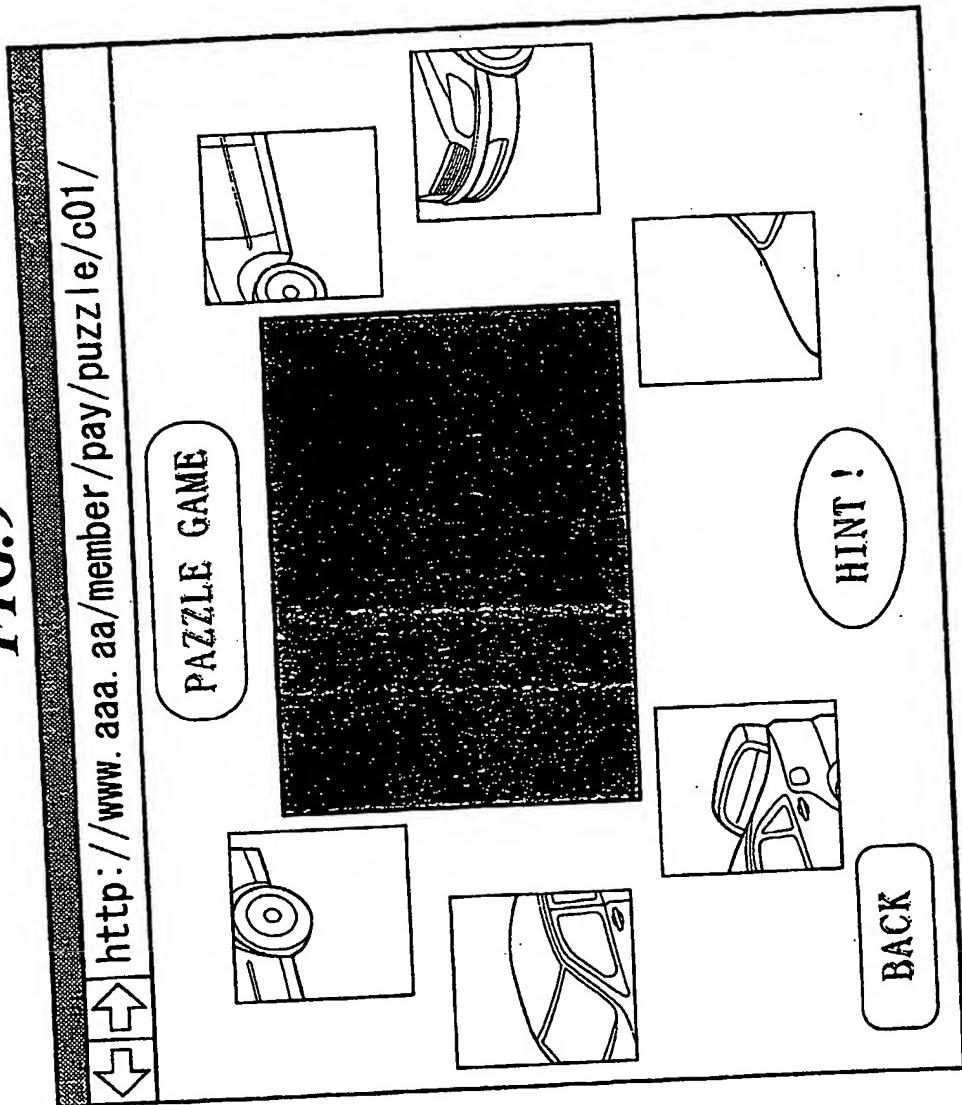
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**FIG. 8**



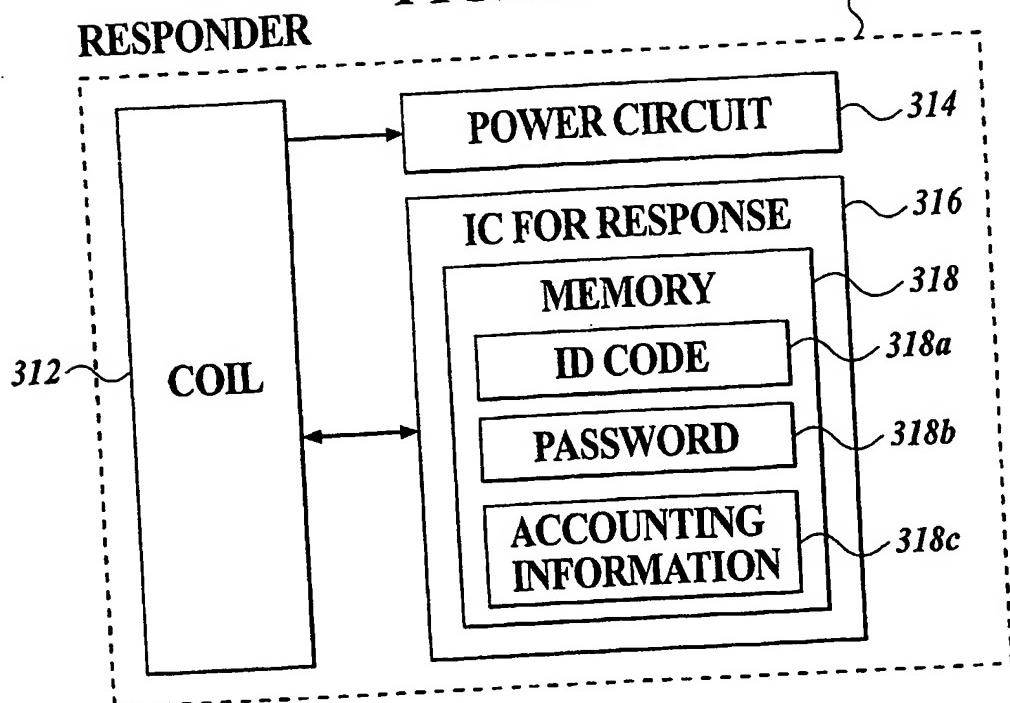
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## FIG.9

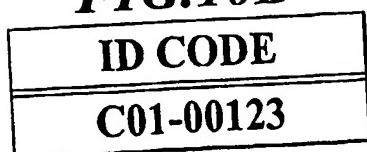


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**FIG.10A**



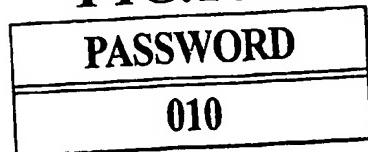
**FIG.10B**



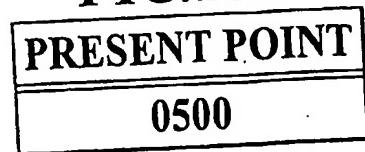
**FIG.10C**

OOO—OOOO  
TOY CLASSIFICATION      SERIAL NUMBER

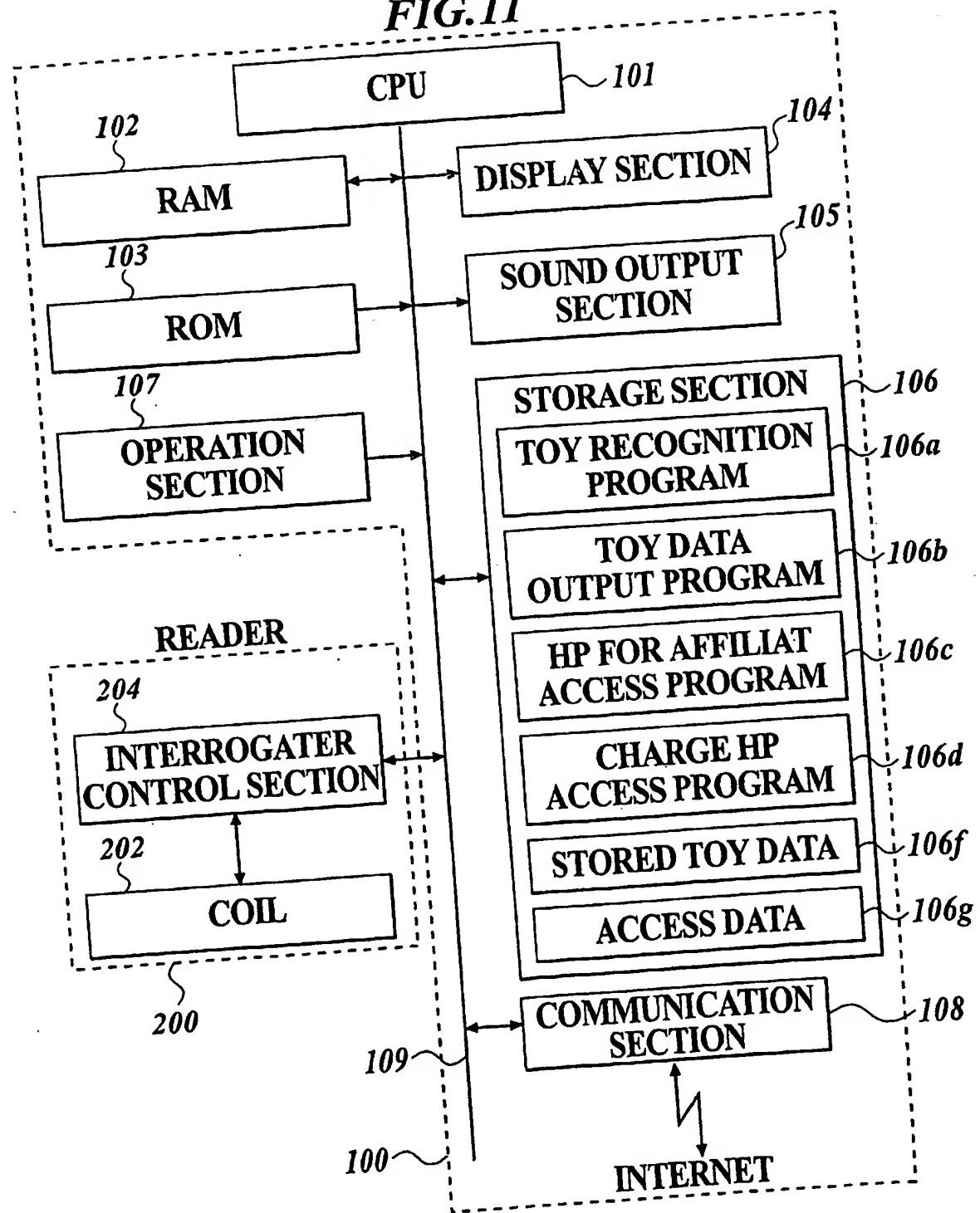
**FIG.10D**



**FIG.10E**

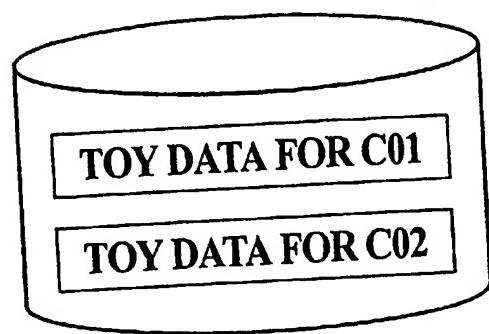


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**FIG.11**



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***FIG.12***

106f STORED TOY DATA



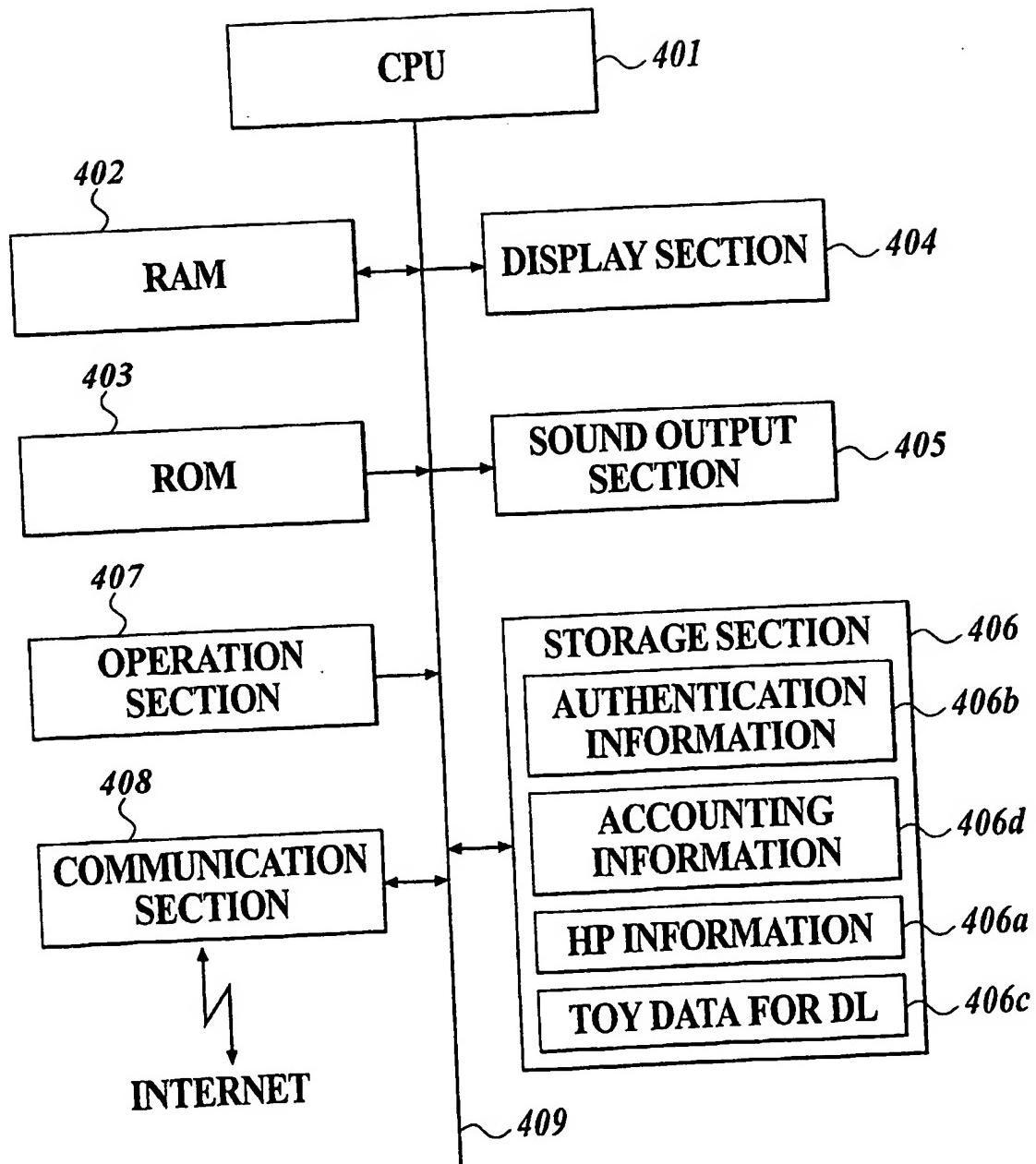
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**FIG. 13**

**106g ACCESS DATA**

TOY CLASSIFICATION CODE	URL			
	TOP HP FOR AFFILIATES	CATALOG HP	TOP HP FOR ACCOUNTING	PUZZLE GAME HP
C00	<a href="http://www.aaa.aa/member">http://www.aaa.aa /member</a>	<a href="http://www.aaa.aa/member/catalog/c00">http://www.aaa.aa /member/catalog/c00</a>	<a href="http://www.aaa.aa/member/pay">http://www.aaa.aa /member/pay</a>	<a href="http://www.aaa.aa/member/pay/puzzle/c00">http://www.aaa.aa /member/pay/puzzle/c00</a>
C01	<a href="http://www.aaa.aa/member">http://www.aaa.aa /member</a>	<a href="http://www.aaa.aa/member/catalog/c01">http://www.aaa.aa /member/catalog/c01</a>	<a href="http://www.aaa.aa/member/pay">http://www.aaa.aa /member/pay</a>	<a href="http://www.aaa.aa/member/pay/puzzle/c01">http://www.aaa.aa /member/pay/puzzle/c01</a>
C02	<a href="http://www.aaa.aa/member">http://www.aaa.aa /member</a>	<a href="http://www.aaa.aa/member/catalog/c02">http://www.aaa.aa /member/catalog/c02</a>	<a href="http://www.aaa.aa/member/pay">http://www.aaa.aa /member/pay</a>	<a href="http://www.aaa.aa/member/pay/puzzle/c02">http://www.aaa.aa /member/pay/puzzle/c02</a>
C03	<a href="http://www.aaa.aa/member">http://www.aaa.aa /member</a>	<a href="http://www.aaa.aa/member/catalog/c03">http://www.aaa.aa /member/catalog/c03</a>	<a href="#">:</a>	<a href="#">:</a>
			<a href="#">:</a>	<a href="#">:</a>
			<a href="#">:</a>	<a href="#">:</a>

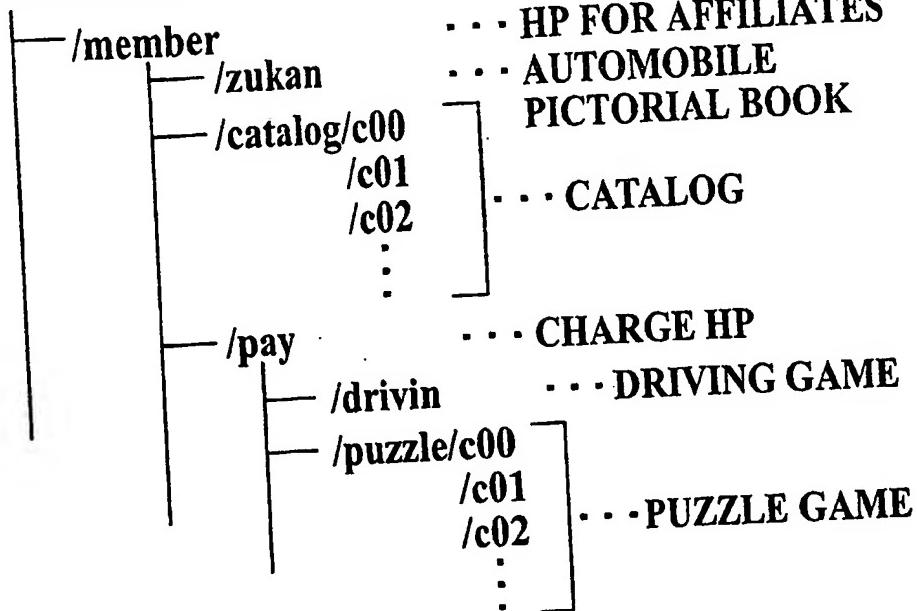
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**FIG.14**



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**FIG.15**

<http://www.aaa.aa>



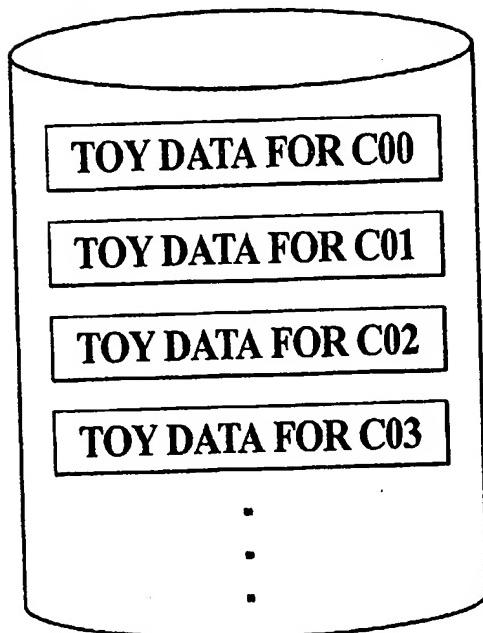
**FIG.16**

406b

TOY CLASSIFICATION CODE	SERIAL NUMBER	PASSWORD
C00	00000 ~ 00999	000
	01000 ~ 01999	001
	:	:
C01	00000 ~ 00999	010
	01000 ~ 01999	011
	:	:

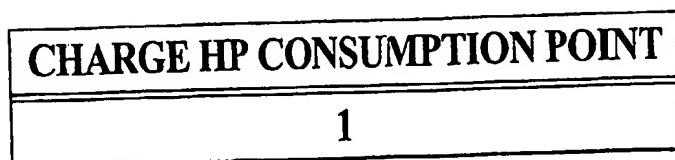
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**FIG.17**

406c TOY DATA FOR DL



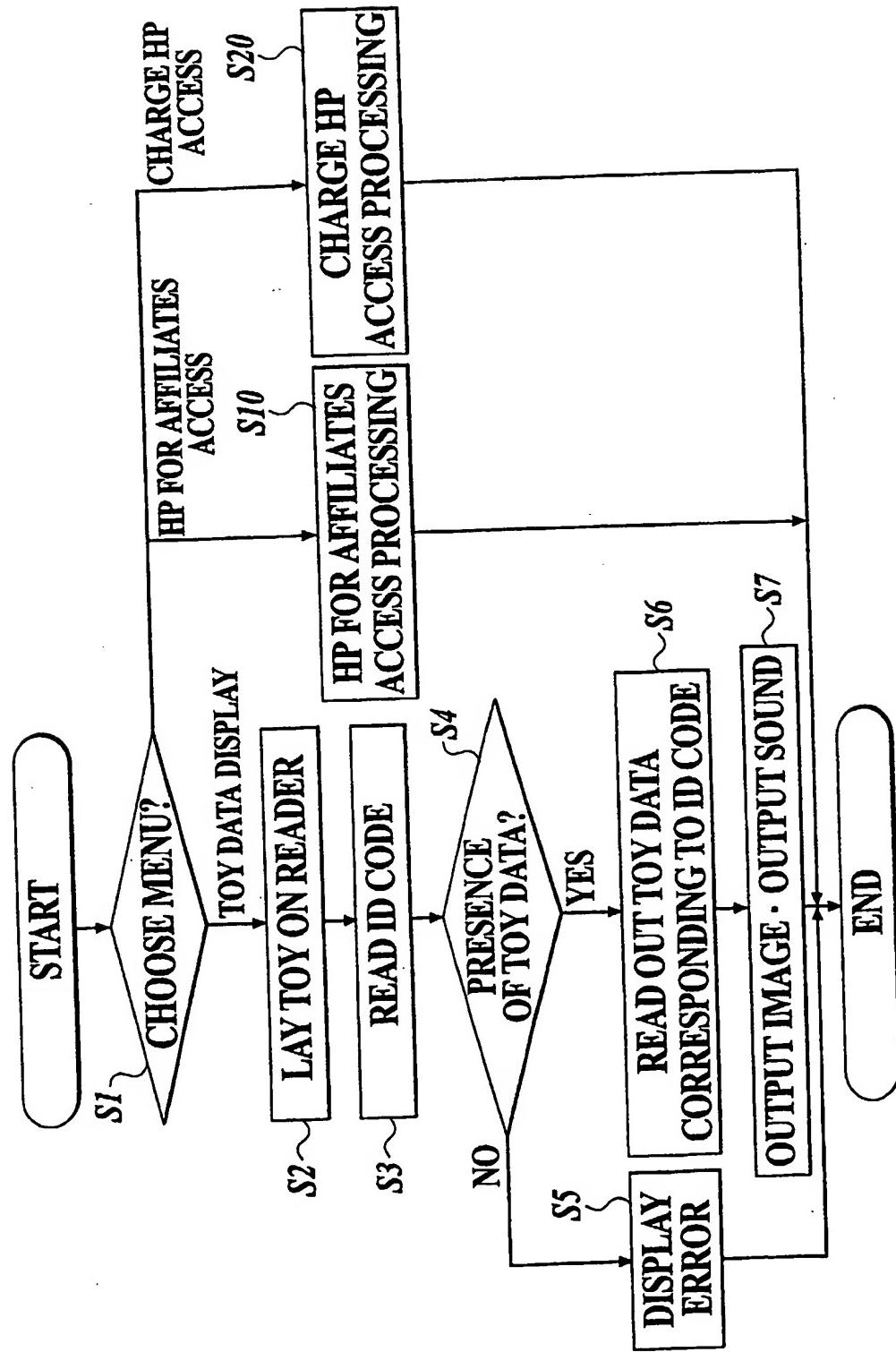
**FIG.18**

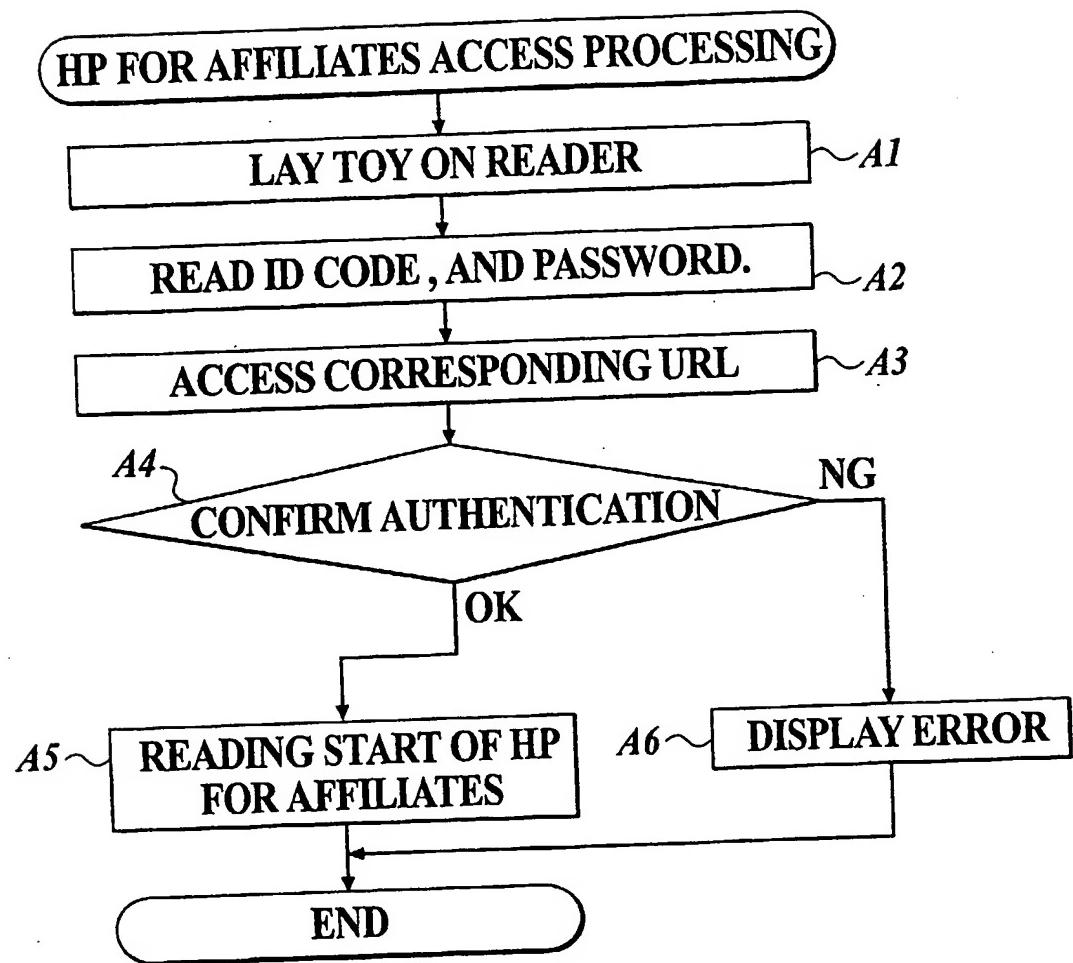
406d



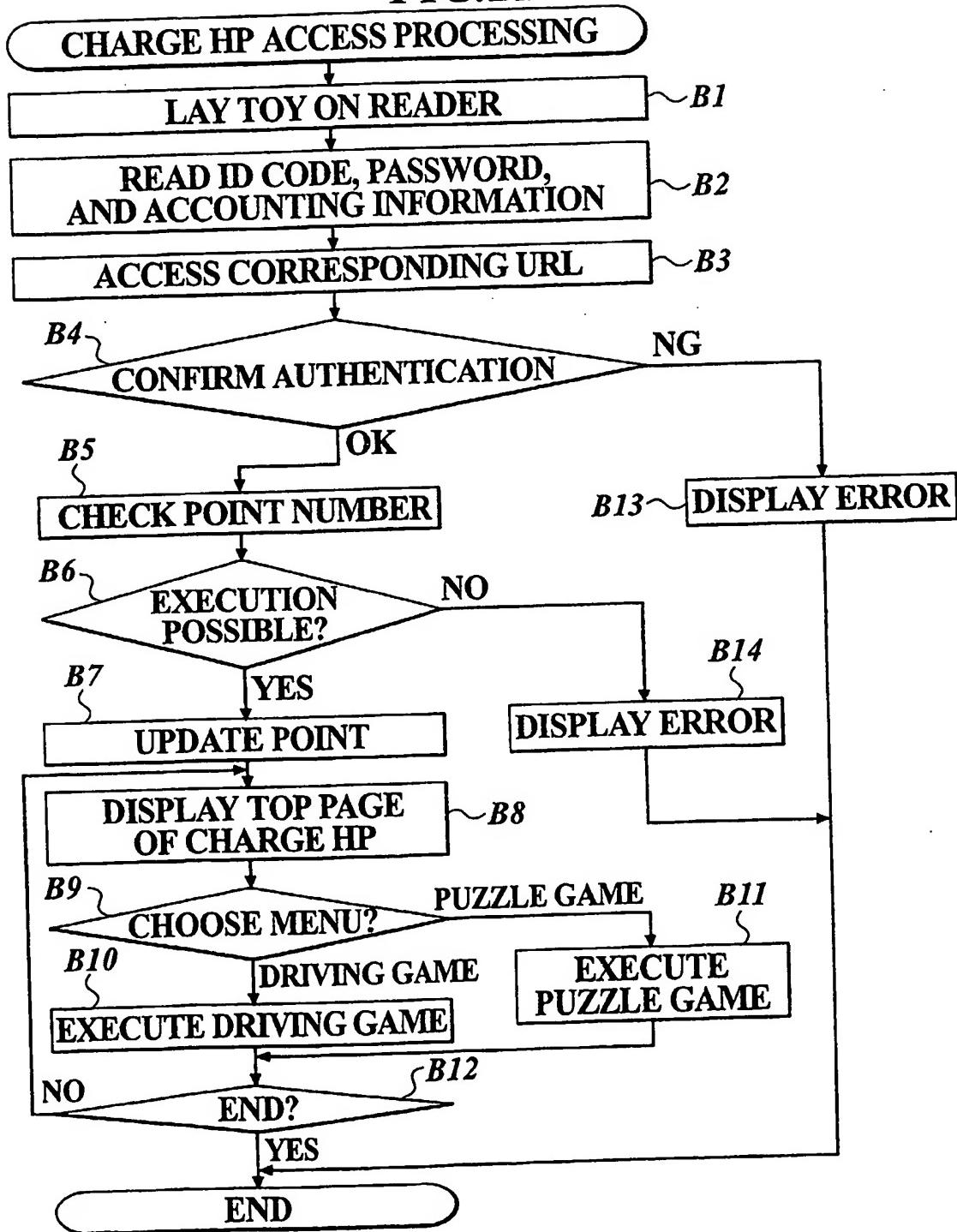
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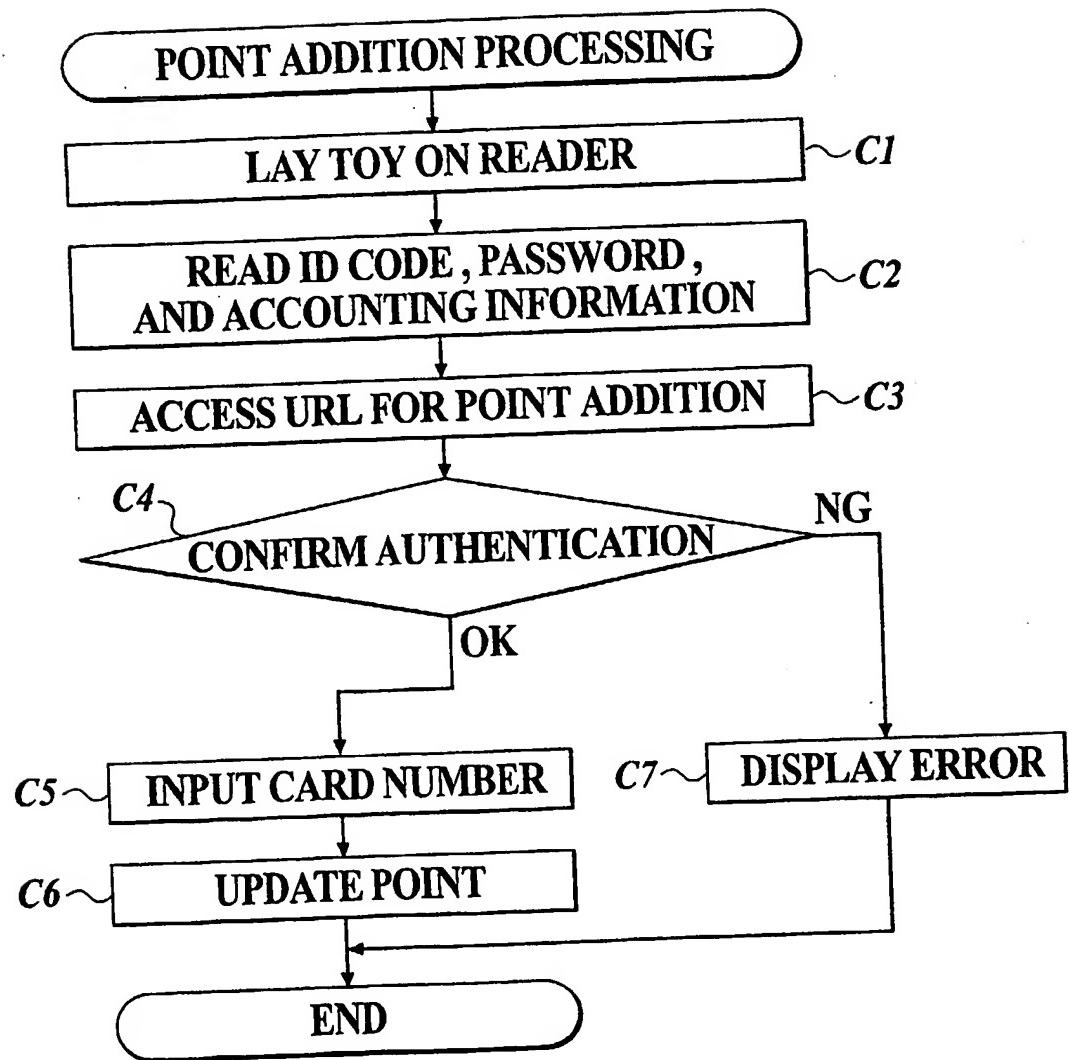
FIG.19



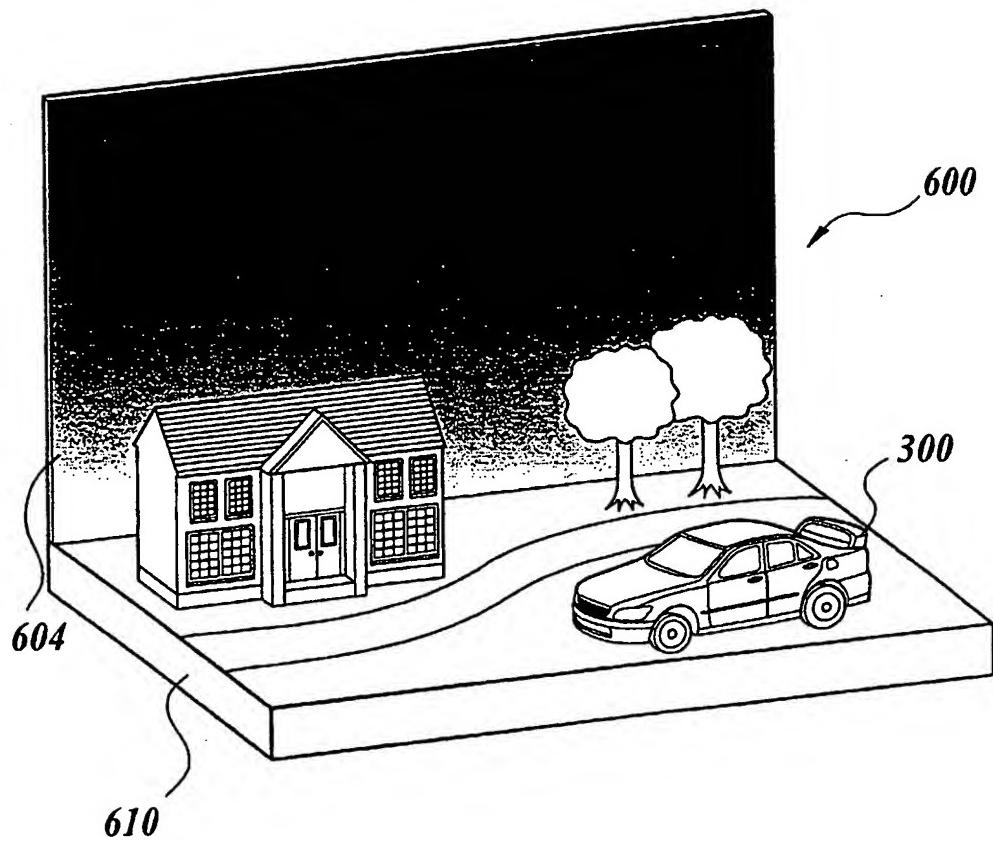
**FIG.20**

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**FIG.21**



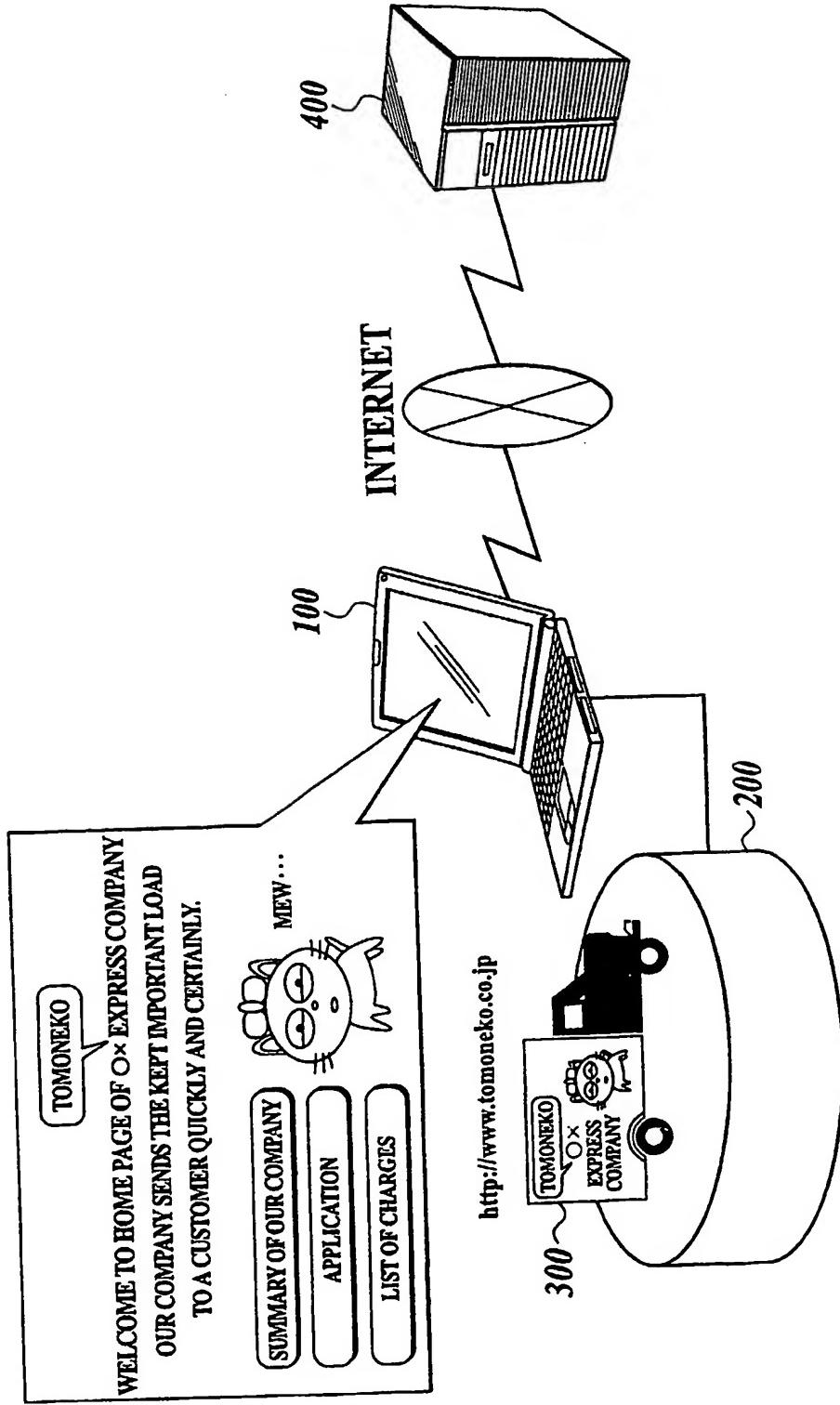
**FIG.22**

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***FIG.23***



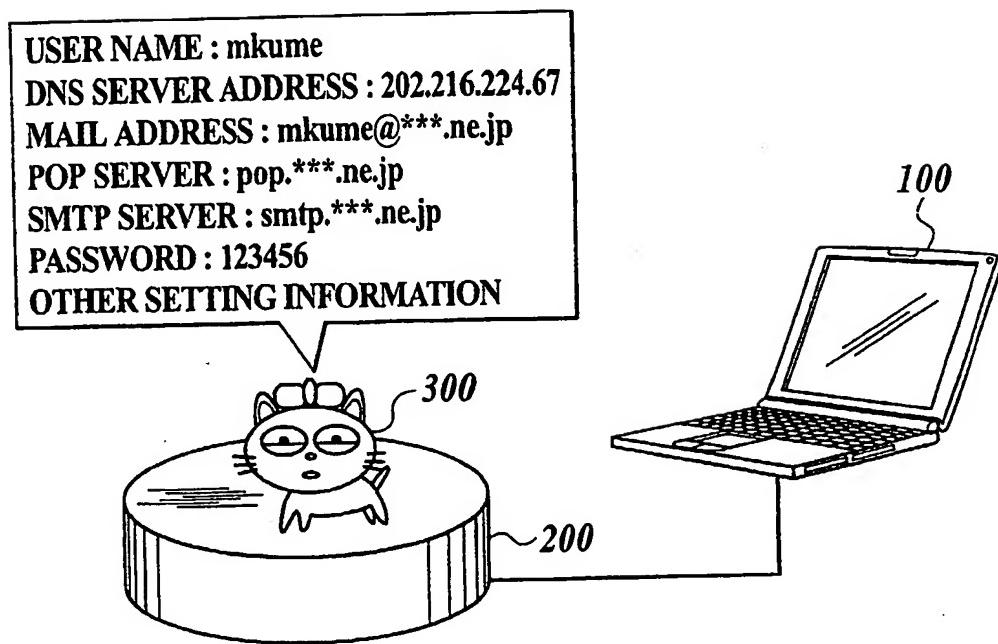
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**FIG. 24**

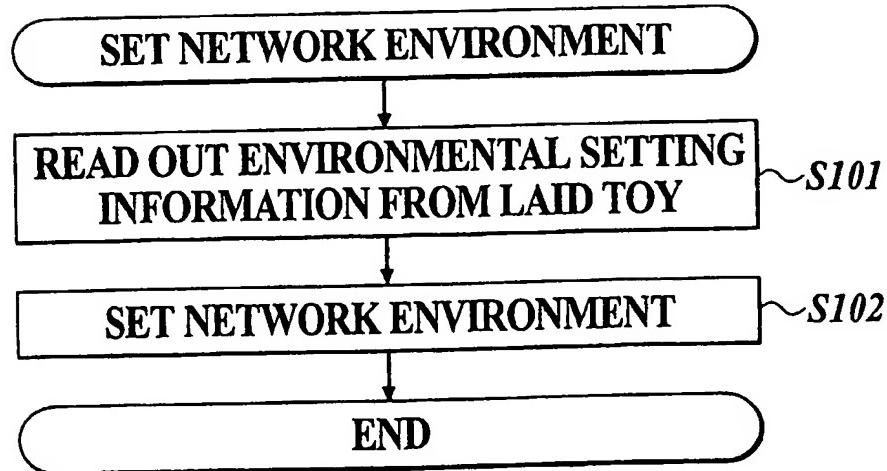


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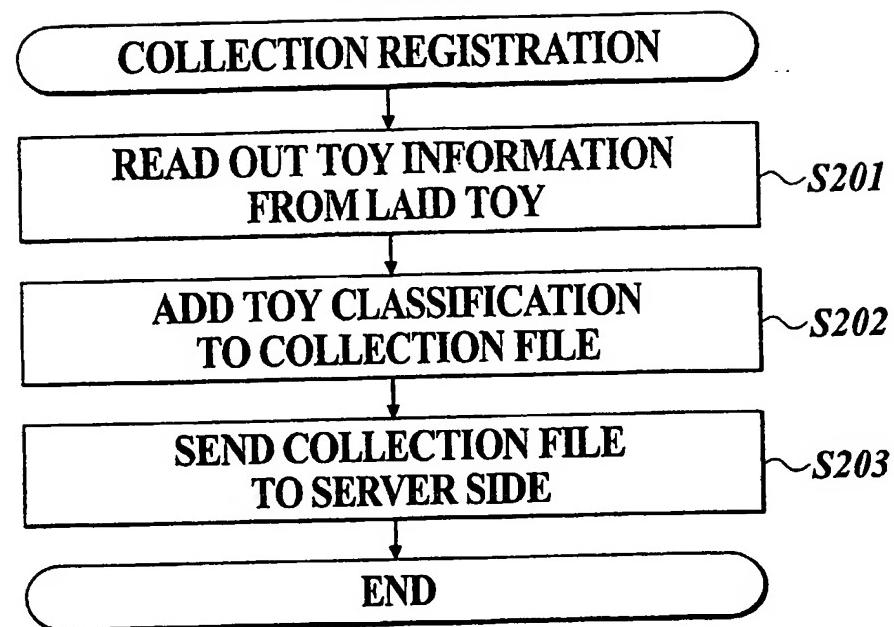
**FIG.25**



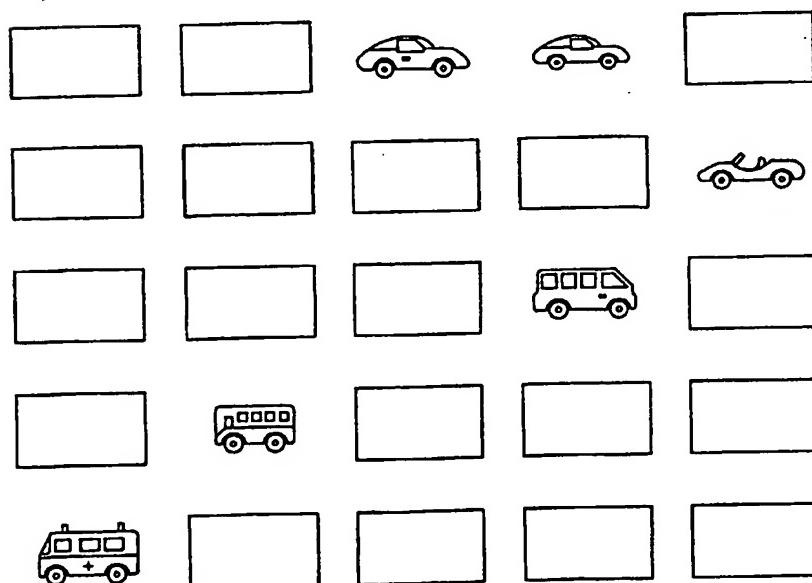
**FIG.26**



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**FIG.27**



**FIG.28**



**2365364**

INFORMATION SERVICE SYSTEM, INFORMATION SERVICE DEVICE,  
SERVER, TOY, INFORMATION SERVICE METHOD, AND RECORD MEDIUM

BACK GROUND OF THE INVENTION

**Field of the Invention**

The present invention relates to an information service system, an information service device, a server, a toy, an information service method, and a record medium. In particular, the present invention relates to the system for providing information about a toy or the like, to a user by accessing external information in accordance with information recorded in the toy.

**Description of Earlier Development**

As a standard toy imitating a form of a specified object, a model called "miniature car" which has a shape of an automobile, a model which has a shape of a character, or the like, are mentioned. These toys is represented by the representation technique which can remind us of the automobile or character from its appearance, and it is common for these toys to be played with moving them by hand, or making them run or operate with a motor. Further, as a kind of a toy, a character card in which various characters are printed is also known. The character card can remind a user of a specified character by a

representation technique of printing a picture, a photograph, or the like, on the surface of the card.

With such a toy, (1) to be hard to break a toy even if a child treats the toy violently, (2) to be an easy operation, (3) to be cheap, are desired. Therefore, adding novel functions to the toy tends to cause the problem of complicating playing with a toy, becoming easy to break a toy besides becoming expensive. From such a reason, it is not easy to satisfy the above-mentioned three requirements, and to raise the added value as a toy goods further.

On the other hand, accompanied with the rapid circulation of various kinds of network represented by the Internet, or the like, a user can obtain various information easily by the access to each kinds of information (information resources) exist on a network. Further, in order to aim at classifying information which is provided to a user and raising the added value, the technique of providing the information that a general user can not obtain only to an affiliate user (the so-called a membership system site) have been also adopted widely. With the membership system site, a user authentication is performed in order to distinguish an affiliate user from the other person. It is common for the user authentication to use authentication information of an ID, a password, and the like, which are individually published.

For example, if it is the user who purchased a

personal computer, the user can obtain an ID, and the like, peculiar to an affiliate by registering at the personal computer maker as a user. And the user can receive different service from a general user, for example, the software only for the personal computer by inputting these information and obtaining a user authentication.

If a user can receive various services (information service) by being a regular user also about the above-mentioned toy, new value can be added to a toy and improvement in goods appeal of a customer to a toy can be realized. In that case, if an individual toy, classification of a toy, or different information for every form by distinguishing a toy itself, can be provided, the added value of a toy can be raised further. For example, it seems that different information for every type of an automobile of a model is prepared, and only the user who owns the model of a type of the specified automobile is accessible to the information about the real automobile or a toy of the automobile (for example, a run scene image, an action game, or the like.). In this case, because a collection will of a user to the model can be raised, it is expectable to produce user's new demand. However, as mentioned above, a user having a toy is mainly a child. Therefore, for some children, a work of operating a personal computer or inputting an ID is difficult or unfamiliar and thereby the problem to the work has arisen.

## SUMMARY OF THE INVENTION

The present invention is accomplished in view of above-mentioned conditions. One object of this invention is to raise the further improvement in goods appeal by adding novel functions to a toy having an appearance that a user can be reminded of a specified object.

Further another object of the present invention is to solve the problem about the operability of the toy or the durability thereof, which is caused when commercializing such a toy, and to provide a toy which even a child can treat the toy easily.

Furthermore, another object of the present invention is to suppress the increase in cost of the toy, which is caused by adding the novel functions, as much as possible.

In order to solve the above problems, in accordance with the first aspect of the invention, an information service system comprises:

a toy for storing toy information;  
a reader for detecting the toy information transmitted by the toy via a contactless data-carrier system; and

an information service device for obtaining related information about the toy by accessing an external storing

section in accordance with the toy information detected by the reader to provide the related information to a user.

In the first aspect of the invention, the term "external storing section" may be a server connected with the information service device through a network (for example, a server for providing homepage information on the Internet), or a storage medium separated from an exchangeable or updatable information service device (for example, CD-ROM, FD, or the like). Further, the term "access" means an input/output of data between the information service device and the storing means, that is, the so-called an exchange of data therebetween.

Further, the information service system may provide the related information to a user by using at least one of an image and a sound.

Of course, the information service device may be a device for only providing the related information with an image and/or a sound, or may be an electronic device that can display the image or output the sound, such as a personal computer, a TV, or the like.

Furthermore, the above-mentioned reader may comprise an interrogator in the contactless data-carrier system, and the toy may comprise a responder in the contactless data-carrier system and a storage medium for storing the toy information.

According to the first aspect of the invention, when

the toy information is detected by a reader, an information service device provides the corresponding related information to a user automatically. Therefore, an effort of an operation of the information service device reduces and even a child can know the related information easily. Further, by treating the related information as the information for introducing the real which the toy imitates and for introducing the toy itself, an interesting image or sound for stirring up a user's imagination can be provided to users (which are mainly children) who own the toy. The value added to the toy can increase. Furthermore, because the related information is obtained by accessing the external storing section, the information service device can always obtain the newest information by updating the information stored in the external storing section.

Further, the external storing section may be accessed in accordance with access time. In this case, the various, interesting related information can be provided to a user in accordance with the time, for example, summer or winter, daytime or night.

Further, because the toy comprises the responder in the contactless data-carrier system, a user can be satisfied with durability of the toy and a price thereof.

Further, accounting information may be further stored in the toy, and the information service device may access the external storing section in accordance with the toy

information and the accounting information.

It is possible that, for example, the accounting information stored in the toy is subtracted whenever the user accesses the external storing section, and that when the accounting information is lost, the user cannot access the external storing section. For this reason, the value of the related information obtained by accessing the external storing section can increase further. In addition, because the information service device accesses the external storing section in accordance with the accounting information, a new effort for a user (a child) is not caused.

Further, the related information may be obtained by accessing homepage information exhibited on the Internet in accordance with the toy information.

For this reason, it is possible to provide the information service device which automatically accesses a homepage about a toy, and which even a child can operate easily.

In accordance with the second aspect of the invention, an information service system comprises:

a storage medium storing one of log-in information and party address information;

a reader for detecting the one of the log-in information and the party address information transmitted

by the storage medium via a contactless data-carrier system; and

an information service device for obtaining related information about the storage medium by accessing homepage information exhibited on the Internet in accordance with the one of the log-in information and the party address information to provide the related information to a user.

In the second aspect of the invention, "a storage medium" may be an IC card or an IC tag, and may be an object, such as a doll, a model, or the like. Because misapprehension is easily caused, it is described repeatedly that the storage medium is not a mere storage medium itself, such as a FD and a memory, but a medium which has a storage medium. The storage medium includes an IC card, a doll that an animation character is printed on the surface thereof, or the like.

According to the second aspect of the invention, in accordance with the log-in information or party address information stored in the storage medium, it is possible to access a homepage on a network. For this reason, because a storage medium and the log-in information or the party address information can be treated as one, a storage medium having various forms can be provided by a producer. The various storage media, for example, a storage medium on which a picture of an image character is printed, a storage medium having an object imitating an animation character or

the like can be provided to a user together with the log-in information or party address information corresponding to the storage medium.

Further, the above-mentioned server is a server for providing related information to an information service device for obtaining the related information by accessing a server, wherein the related information is obtained from predetermined homepage information exhibited on the Internet.

In the above structure, in the side which provides the related information, i.e., the manager of the server, because the related information can be collectively managed as the homepage information, a maintenance of the information about the toy can be improved.

Further, in this case, a predetermined access to the homepage information may be restricted in accordance with the toy information. In that case, when an irregular user who does not own the toy accesses the homepage, the homepage information cannot be read. Therefore, the value of the homepage information can increase.

In accordance with the third aspect of the present invention, an information service system for carrying out information communications between an information service device and a server through a network, comprises:

a toy having an appearance that a user is reminded of

a specified object, for storing access information which is readable out from an external portion of the toy;

a server for accumulating information about the specified object or about the toy; and

an information service device for providing related information about the specified object or about the toy to a user by reading out the access information stored in the toy and by accessing the server which stores a plurality of addresses of the related information, the address being identified by the read-out access information.

In the third aspect of the present invention, it is preferable that the information service device comprises an interrogator in a contactless data-carrier system, and that the toy comprises a responder for carrying out data communications with the interrogator.

Further, the access information which varies with a classification of the toy or a form of the toy may be stored in the toy. Information which varies with the classification of the toy or the form of the toy may be accumulated in the server. And the related information which is provided to a user by the information service device may vary with the classification of the toy or the form of the toy.

Further, the appearance of the toy reminds a user of the specified object, and the related information which is provided to a user by the information service device may be

one about the specified object.

In accordance with the fourth aspect of the present invention, a toy having an appearance that a user is reminded of a specified object comprises:

a storing section for storing predetermined access information; and

a controlling section for controlling the storing section in order to output the access information which is stored in the storing section;

wherein the access information is related to an address of information about the specified object or about the toy, which is accumulated in a server which exists on a network.

In the fourth aspect of the invention, it is preferable that the controlling section comprises a responder in a contactless data-carrier system.

Further, the access information which varies with a classification of the toy or a form of the toy is stored in the storing section, and the address of the information to be accessed which is accumulated in the server may be specified in accordance with a corresponding relationship between the access information and the address, which is previously set in an external system side for reading out the access information. The access information may be the address of the information to be accessed, which is

accumulated in the server.

Further, the above-mentioned access information may vary with a classification of the toy or a form of the toy.

Furthermore, the appearance of the toy reminds a user of the specified object, and the access information may be related to the address of the information about the specified object, which is accumulated in the server which exists on the network.

Furthermore, authentication information for authenticating a user when the information accumulated in the server which exists on the network is accessed, may be stored in the storing section. Accounting information controlling that a user accesses the information accumulated in the server exists on the network, may be stored in the storing section.

In accordance with the fifth aspect of the present invention, a toy having an appearance that a user is reminded of a specified provider for providing a network service, comprises:

a storing section for storing setting information set on a user's terminal in order to receive the network service provided by the provider; and

a controlling section for controlling the storing section in order to output the setting information stored in the storing section to an external portion of the toy.

In accordance with the sixth aspect of the present invention, an information service device for providing information to a user by carrying out information communications between a plurality of servers through a network, comprises:

a controlling section for reading out access information recorded in a toy from the toy having an appearance that the user is reminded of a specified object; and

a communicating section for receiving information from a server in accordance with an address specified by the read-out access information in order to provide related information about the specified object or about the toy to the user.

In the sixth aspect of the present invention, it is preferable that the controlling section comprises an interrogator in a contactless data-carrier system.

In accordance with the seventh aspect of the present invention, a server for specifying an address on a network by access information recorded in a toy having an appearance that a user is reminded of a specified object, comprises:

a storing section for accumulating information about the specified object or about the toy; and

a communicating section for sending the information accumulated in the storing section to a user system in accordance with a demand outputted from the user system which reads out the access information recorded in the toy.

In accordance with the eighth aspect of the present invention, an information service method for providing information to a user by carrying out information communications between a plurality of servers through a network, comprises the steps of:

reading out access information recorded in a toy from the toy having an appearance that a user is reminded of a specified object;

demanding information accumulated in a server in accordance with an address specified by the read-out access information; and

providing related information about the specified object or the toy to a user in accordance with the demanded information outputted from the server.

In accordance with the ninth aspect of the present invention, a record medium for recording a program for executing a information service method for providing information to a user by carrying out information communications between a plurality of servers through a network, the record medium, comprises the steps of:

reading out access information recorded in a toy from the toy having an appearance that a user is reminded of a specified object;

demanding information accumulated in a server in accordance with an address specified by the read-out access information; and

providing related information about the specified object or the toy to a user in accordance with the demanded information outputted from the server.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description given hereinbelow and the accompanying drawing which are given by way of illustration only, and thus are not intended as a definition of the limits of the present invention, and wherein;

FIG. 1 shows the personal computer, the reader, and the toy according to the first embodiment of the present invention;

FIG. 2 shows the composition of the whole system according to the first embodiment of the present invention;

FIG. 3 shows an example of HP for the public;

FIG. 4 shows an example of HP for affiliates;

FIG. 5 shows an example of the menu page of HP for affiliates;

FIG. 6 shows an example of HP concerning the catalog in HP for affiliates;

FIG. 7 shows an example of the menu page of Charge HP;

FIG. 8 shows an example of HP concerning the driving game in Charge HP;

FIG. 9 shows an example of HP concerning the puzzle game in Charge HP;

FIG. 10A is the functional block diagram of the responder built in the toy, FIG. 10B shows an example of the ID code stored in the memory of the responder, FIG. 10C shows an example of the composition of the ID code, FIG. 10D shows an example of the password, and FIG. 10E shows an example of the accounting information stored in the memory of the responder;

FIG. 11 shows the functional block diagram of the personal computer and the reader;

FIG. 12 shows an example of the stored toy data stored in the storage section of the personal computer;

FIG. 13 shows an example of the access data stored in the storage section of the personal computer;

FIG. 14 shows the functional block diagram of the server;

FIG. 15 shows the hierarchical structure of URL of HP

exhibited on the Internet by the server;

FIG. 16 shows an example of the authentication information stored in the storage section of the server;

FIG. 17 shows an example of the toy data for DL stored in the storage section of the server;

FIG. 18 shows an example of the accounting information stored in the storage section of the server;

FIG. 19 is a flowchart showing the flow of the whole operation of the personal computer;

FIG. 20 is a flowchart showing the operation of the HP for affiliates access processing;

FIG. 21 is a flowchart showing the operation of the Charge HP access processing;

FIG. 22 is a flowchart showing the operation of the point addition processing;

FIG. 23 shows the mounting table of exclusive use;

FIG. 24 is an explanation view of the information service system according to the second embodiment;

FIG. 25 is an explanation view of the information service system according to the third embodiment;

FIG. 26 is a flowchart showing the network environmental setting processing;

FIG. 27 is a flowchart showing the collection registration processing according to the fourth embodiment; and,

FIG. 28 shows an example of the display screen of the

toy collection.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

##### First embodiment:

Hereinafter, the first embodiment of the present invention will be explained with reference to the accompanying drawings in detail. In the embodiment of the present invention, an example of the case of applying an information service device to a note-sized personal computer (hereinafter, simply referred to as "a personal computer") will be explained. However, the information service device which a user operates is not limited to the personal computer, it is possible to use a desktop-type personal computer, a home video home machine, a transmitter-receiver of digital TV, or the system of its own use or the like. But as conditions for the information service system according to the embodiment, as mentioned latter, it is necessary to be the user system which can access information stored in a toy.

First, a data-carrier system being one of important technology when realizing the information service system according to the present embodiment will be explained briefly. The data-carrier system is comprised of an interrogator and a responder. The responder generates

recognition signals in responding to radio wave sent from the interrogator. As such the data-carrier system, a contactless IC card is known best as the responder.

As the contactless IC card (the responder), Close coupled (ISO/IEC10536), Proximity (ISO/IEC14443), Vicinity (ISO/IEC15693), Microwave are known. Generally, a LSI chip, a capacitor, and a wire wound coil are mounted in the card. The data communication between the card and a reader-writer device (an interrogator) is performed by the electromagnetic-induction method. Further, as a kind of the responders, a key holder, a button, or the like, as an IC tag are developed and put in practical use. Therefore not the IC card but the IC tag may be used as the responder.

These responder are contactless and do not need to have a power supply therein because the power supply is supplied with an LSI, or the like, mounted in the interrogator by the electromagnetic-induction operation due to radio wave sent from the interrogator. For this reason, the responder is excellent in environment-proof, such as damage and wear, and in maintenance. The data-carrier system which has such a merit is optical technology for adopting it as a toy with which a child mainly deals.

Furthermore, as a kind of ID, the object of these conventional data-carrier system is to provide, for example, a simple distinction method which can distinguish an employee number of an employee having a contactless IC

card (a responder) in the distant position. The above is the scheme of the data-carrier system.

Next, the whole composition of the information service system according to the present embodiment will be explained. FIG. 1 shows a personal computer 100, a reader 200 connected to the personal computer 100, and a toy 300. Further, FIG. 2 shows the composition of the whole information service system.

In FIG. 1, the toy 300 is the model (the miniature car) represented with representation means for imitating an appearance shape of the real automobile, and stores various information including "access information" which can output to the outside of the toy 300. Here, the term the "access information" means the information required to access the specific information accumulated in the outside of the toy 300. The term "the information" mentioned herein include not only information resources exist on a network but also local information exist the personal computer 100 corresponding to the information service system. Further, although mentioned later for details, with the present embodiment, an ID code (toy information) given to proper to the toy 300 is used as the access information. Furthermore, the responder 310 (shown in FIG. 10) being a data-carrier is built in the toy 300. With the below-mentioned program been resident or started up, when the data communication

between the reader 200 and the responder 310 built in the toy 300 is performed, the information stored in the toy 300 is read out to the personal computer 100 before the personal computer 100 distinguishes the responder 310, i.e., the toy 300. Then, when the toy 300 is distinguished by the personal computer 100, the following operation is automatically performed in the personal computer 100.

That is, when a user lays the toy 300 being the automobile-shaped model on the reader 200, the toy 300 is distinguished by the reader 200. And "related information" about the toy 300 itself or "related information" about the real automobile imitated by the toy 300 is provided to the user. Here, the term the "related information" means the information which is directly or indirectly related to the toy 300 itself or an object imitated by the toy 300 (the real automobile). Further, the relevance to the object is not limited to the real automobile itself imitated by the toy 300, includes a general automobile in more wide sense, further may include the relevance to the specified subject of a manufacture maker, a selling maker, or the like, of the real automobile. As such the related information, for example, the detailed information about the toy 300 and a real automobile, the games (action games, puzzle games, or the like) and stories in which it appears, the information about a business unit called a manufacture maker of a real automobile (for example, an advertisement of the business

unit), or the like, are mentioned. In the present embodiment, a run scene (image information) of the real automobile imitated by the toy 300 is automatically displayed on a display section 104 of the personal computer 100, and an engine sound (sound information) of its automobile is outputted by a sound section 105.

Further, as shown FIG. 2, the personal computer 100 can connect with a wired or wireless network represented in the Internet, and can access suitably to information in a network. Various information (typically Web contents) exists on such a network. The Web contents about the toy 300 or the real automobile imitated by the toy 300 is accumulated in a server 400 (a Web server) which an object (for example, a maker of the toy 300) have. A user can read and enjoy the newest information about the toy 300 and the information which an only regular user can read, by accessing suitably to the local information accumulated in the personal computer 100 or to the Web contents on a network.

FIG. 3 shows an example of HomePage (hereinafter, simply referred to as "HP", and hereinafter, HP generally opened to the public is simply referred to as "HP for the public"). FIG. 4 shows an example of HP opened to affiliates (hereinafter, simply referred to as "HP for the affiliates") General readers can read HP of the maker manufacturing the toy 300 as shown FIG. 3 by using the

personal computer 100, or the like. On the other hand, when the user who owns the toy 300 lays it on the reader 200, the toy 300 is recognized by the reader 200. By this, HP for affiliates as shown in FIG. 4 is automatically displayed on the display section 104 of the personal computer 100, and the user who owns the toy 300 can access information accumulated in the server 400, to which only the affiliate (the user who owns the toy 300) can access.

FIG. 4 shows one example of a menu page of HP for affiliates. The affiliate can choose "AUTOMOBILE PICTORIAL BOOK" or "CATALOG" from the menu page by key operation of the personal computer 100. When "AUTOMOBILE PICTORIAL BOOK" chosen, a kind choice screen as shown in FIG. 5 for choosing the kind of automobile further can be displayed on the display section 104. And then the affiliate can read the related information about the objective automobile by deciding the objective automobile on the display section 104.

When "CATALOG" in FIG. 4 chosen, the information about the real automobile imitated by the toy 300, as shown in FIG. 6, is directly displayed on the display section 104. Thereby, the related information about the specified real automobile is provided to the affiliate.

Thus, because a user can read the related information about the toy 300 on the display section 104 of the personal computer 100 by laying the toy 300 which the user

owns on the reader 200, even if he is a child, he can perform the above-mentioned operation easily. Further, because the responder 310 built in the toy 300 is contactless, it is excellent in contact and wear from the outside, and also in maintenance by unnecessaries of the power supply, or the like. The problem about the operability of the toy or the durability thereof, which is caused when commercializing the toy 300, can be solved, and the toy 300 which even a child can easily treat can be realized. Furthermore, because the data-carrier system has a comparatively simple structure and the cost of the part incorporated in the data-carrier system is comparatively cheap, the increase in cost of the toy 300 by adding above-mentioned functions can be suppressed.

Furthermore, by storing accounting information in the responder 310 of the toy 300, it may be possible to read the charge HomePage (hereinafter, simply referred to as "Charge HP") as shown in FIG. 7. Concretely, predetermined points as initial value are previously stored in the responder 310. Whenever the affiliate read Charge HP, a predetermined point, for example, "1 point" is subtracted from the predetermined points. And when a predetermined point becomes "0 point", the affiliate cannot read Charge HP. As shown in FIG. 7, Charge HP is constituted so that the affiliate can enjoy two games of "DRIVING GAME" and "PUZZULE GAME", and related information corresponding

affiliate's choice ("DRIVING GAME" or "PUZZLE GAME") is provided to the affiliate. Concretely, when "DRIVING GAME" chosen, an opening screen of "DRIVING GAME" as shown in FIG. 8 is displayed on the display section 104 of the personal computer 100, and he can enjoy "DRIVING GAME" that the affiliate operates the automobile imitated by the toy 300 on the display section 104. On the other hand, when "PUZZLE GAME" chosen, he can enjoy "PUZZLE GAME" that the affiliate returns some broken pieces of the picture representing the toy 300 to former position.

Next, the hardware composition which realizes the present embodiment will be explained. FIG. 10A is the functional block diagram of the responder built in the toy 300. The responder 310 comprises a coil 312, a power circuit 314, and an IC for response 316. The IC for response 316 comprises a memory 318 which functions as a storage section storing predetermined information. And a circumference circuit accumulated in the IC for response 316 and the coil 312 function as a control section for outputting stored information to an external system. The coil 312 is for performing data communication between the coil 312 itself and a coil 202 of the reader 200 (shown in FIG. 11) by the electromagnetic induction, and is made up a wire wound coil, and the like. Further, the power circuit 314 rectifies the current by the electromagnetic induction

produced in the coil 312 and supplies predetermined voltage to the IC for response 316, and is made up a capacitor, and the like.

The IC for response 316 is automatically started by the power supply supplied from the power circuit 314, and performs substantial data communication with the reader 200 (the interrogator) through the coil 312. Concretely, the IC for response 316 sends an ID code 318a, a password 318b, and accounting information 318c which are stored in the memory 318 to the reader 200 of the personal computer 100 through the coil 312.

FIG. 10B shows an example of the ID code as toy information stored in the memory 318, and FIG. 10C shows the structure of the ID code. In FIG. 10B, "C01-00123" is shown as the ID code of the toy 300 itself (or the ID code given in accordance with a classification of the toy 300 or a form of the toy 300). The portion of "C01" shows the classification of the toy 300 (hereinafter, simply referred to as "the toy classification"), the portion of "00123" shows a serial number of the toy 300. The term "the toy classification" means, for example, if it is the model of the toy 300, a classification of a toy having a shape of a private automobile A and a comic character B. The term "C01" means a code which specifies the toy classification (hereinafter, simply referred to as "the toy classification code"). The ID code being the toy information also

functions as access information required to specify an existence place (an address) of specified information on a network.

FIG. 10D shows one example of a password as authentication information required for authentication of the toy 300, which is performed in the case of accessing information on a network, and FIG. 10E shows one example of accounting information for controlling a user's access to information on a network. "010" as the password is stored in the memory 318. And point value of "0500" as the accounting information is stored in the memory 318.

The memory 318 can be comprised of a RAM, a ROM, or the like. When managing the accounting information by the toy 300, it is necessary for the accounting information 318c to be rewriteable. In this case, as the memory 318 in the IC for response 316, which stores in the accounting information 318c, it is preferably to use an electrically rewriteable memory (typically an EPROM and an EEPROM). In addition, with a medium for storing the password 318b, the medium is comprised of an EEPROM, or the like, and may be rewriteable.

FIG. 11 shows the functional block diagram of the personal computer 100 and the reader 200. The personal computer 100 comprises a CPU 101, a RAM 102, a ROM 103, a display section 104, a sound output section 105, a storage section 106, an operation section 107, a communication

section 108. Each part is connected to a bus 109, and thereby, data can be communicated among the each part. Further, because each function of the personal computer 100 is the same as that of a common personal computer, characteristic parts according to the present invention will be explained mainly.

The storage section 106 is comprised of a hard disk, a CD-ROM, or the like, and stores data and a program. And the storage section 106 also includes a storage medium and a read-write device thereof. The storage section 106 stores a toy recognition program 106a, a toy data output program 106b, a HP for affiliates access program 106c, and a charge HP access program 106d, as a program. And the storage section 106 stores stored toy data 106f and access data 106g, as data.

The toy recognition program 106a is a control program for an interrogator control section 204 of the reader 200. The toy recognition program 106a is a control program which reads out the ID code of the toy laid on the reader 200, reads out the password, and read-writes the accounting information. That is, in the present embodiment, under executing the toy recognition program 106a, read-write control of information stored in the toy 300 (in other words "access") is performed by co-operating between the personal computer 100 and the reader 200.

The toy data output program 106b is a program for

making the CPU 101 execute a toy data display processing. Concretely, the toy data output program 106b specifies data corresponding the toy laid on the reader 200 from the stored toy data 106f. The toy data output program 106b makes the specified data image-output at the display section 104, and sound-output at the sound output section 105.

The HP for affiliates access program 106c is a program for making the CPU 101 execute a HP for affiliates access processing (with referred to FIG. 20). The Charge HP access program 106d is a program for making the CPU 101 execute a Charge HP access processing (with referred to FIG. 21). Concretely, both programs specify the URL corresponding the toy laid on the reader 200 from the access data 106g. And both programs are a program for accessing information on a network that an existence place of the information is specified from URL through the communication section 108, or the like. With this accessing, accessing to HP for affiliates or accessing to Charge HP is performed by outputting the ID code and the password which read out from the toy 300 to a server 400. In addition, an address (URL) of information to be accessed on a network is specified uniquely from the ID code in the toy 300 by referring to the below-mentioned data table.

The stored toy data 106f is the data aggregate downloaded by accessing to HP for affiliates, or the like.

FIG. 12 shows an example of the stored toy data 106f. In FIG. 12, the toy data that the toy classification code is "C01" and "C02" is stored in the stored toy data 106f. That is, the stored toy data 106f is data obtained by accessing to HP for affiliates and by downloading the toy data, using the toy wherein the toy classification is "C01" and "C02".

Here, the toy data are data about the toy 300, and are image and sound data which was explained with reference to FIG. 6 as HP of "CATALOG", such as image, an engine sound, narration, or the like, to which the real automobile imitated by the toy is related. Further, this toy data is stored in the storage section 106 as data which vary with every toy classification.

FIG. 13 shows one example of the access data 106g. The access data 106g is the data table in which the correspondence relation between the toy classification and URL of HP accessible to the toy classification (a part of the toy information) is stored. As shown in FIG. 13, for example, when the toy classification code is "C00", the access data 106g stores "http://www.aaa.aa/member" as URL of HP for affiliates, "http://www.aaa.aa/member/catalog/c00" as URL of CATALOG HP, "http://www.aaa.aa/member/pay" as URL of HP for accounting, and "http://www.aaa.aa/member/pay/puzzle/c00" as URL of PUZZLE GAME HP. The access data 106g stores in URL corresponding to all the toy classification code

without concerning for whether being a toy which a user owns. In addition, when HP for affiliates accessed, these information may be updated suitably so as to be the newest access data.

Thus, if the toy information on a certain toy 300 (the ID code) is given, the existence place of the information on an accessible network is specified uniquely by referring to the data table shown in FIG. 13. Therefore, because an address of information which exists on a network is specified directly, the toy data can be considered as the above-mentioned access information. In other words, the toy information being one form of the access information is related with the address of the information about a specified object stored in a server which exists on a network or about the toy representing to the specified object. Further, although CATALOG HP, PUZZLE GAME HP, or the like, which vary with every classification of the toy 300 in the same category (that is, automobile) are set up, the contents vary with the classification (or the form) of the toy 300. Therefore, the related information provided to a user varies with the classification of the toy 300 or the form of the toy 300. For example, the user who owns the toy 300 imitating a sports car can read the catalog of the sports car, the click movie in which it appears, or the like, and also enjoy the driving game, or the like. On the other hand, the user who owns the toy 300 imitating a fire

engine can read the catalog of the fire engine, the click movie in which it appears, or the like, and also enjoy the fire-extinguishing game of a building, or the like.

The CPU 101 reads out the above-mentioned program stored in the storage section 106, and executes a processing according to the above-mentioned program. Consequently, the information, such as a display of an image in the display section 104 or an output of a sound (music and voice are included) from the sound output section 105, is provided to a user. Further, the CPU 101 also executes a processing that a processing result is stored in the storage section 106.

The RAM 102 forms the work area which stores temporarily the various processing data executed by the CPU 101, and the ROM 103 stores initial data at the starting-up time of the personal computer 100, an IPL (Initial Program Loader) program, or the like. The display section 104 display-outputs image data, or the like, directed by the CPU 101, and is comprised of a LCD (Liquid Crystal Display), or the like. The sound output section 105 outputs sound data directed by the CPU 101 as a sound, and is comprised of a speaker, or the like. The communication section 108 connects the personal computer 100 with the Internet, is for reading HP on the server 400, and is comprised of a modem, a TA (a Terminal Adopter), a DSU (a Digital Service Unit), or the like. The control section 107

is comprised of a keyboard, a mouse, or the like, and outputs the directed-input by a user to the CPU 101.

The reader 200 is an interrogator which comprises a coil 202 and a interrogator control section 204. The reader 200 constitutes the data-carrier system performed between the reader 200 and the responder 310 of the toy, and performs data communication with the responder 310. Further, the interrogator control section 204 performs data communication with the responder 310 by changing the amount of current which is flowed in the coil 202 and voltage value, in accordance with the directing signal inputted from the CPU 101. Furthermore, the interrogator control section 204 outputs a communication result to the CPU 101.

Further, the data communication between the reader 200 and the personal computer 100 may be serial communications using RS-232C (Recommended Standard 232C), USB (Universal Serial Bus), or the like, or may be parallel communications.

FIG. 14 is a functional block diagram of the server 400 which provides HP information, or the like, through the Internet. The server 400 comprises a CPU 401, a RAM 402, a ROM 403, a display section 404, a sound output section 405, a storage section 406, an operation section 407, a communication section 408. Each part is connected to a bus 409, and thereby, data can be communicated among the each part. Further, it is common to prepare a DNS server

separately or to prepare a local LAN for a fire wall and filters, in order to guarantee functions as a WWW server. But, for the sake of simple explanation, the present invention will be explained assuming to connect the one server 400 with the Internet directly. Further, because the server 400 is the same as a common WWW server, characteristic parts according to the present embodiment will be explained mainly.

The storage section 406 is comprised of a hard disk, or the like, and stores HP information 406a, authentication information 406b, toy data for Downloading (hereinafter, simply referred to as "DL") 406c, and accounting information 406d.

The HP information 406a is the information about HP for the public, HP for the affiliates, Charge HP, and the like. FIG. 15 shows one example of a hierarchical structure of URL of HP that the server 400 exhibits on the Internet. In FIG. 15, URL of a top page is "http://www.aaa.aa" and, HP of this URL is exhibited to the public (shown in FIG. 3). And there is "http://www.aaa.aa/member" as URL of menu HP of HP for affiliates (shown in FIG. 4). In the lower hierarchy of this URL, there is "http://www.aaa.aa/member/zukan" as URL of HP for AUTOMOBILE PICTORIAL BOOK (shown in FIG. 5), and "http://www.aaa.aa/member/catalog" as URL of HP for CATALOG (shown in FIG. 6). And, in the lower hierarchy of URL for

CATALOG, there is URL corresponding to each toy classification further.

Further, there is "http://www.aaa.aa/member/pay" as URL of menu HP of Charge HP (shown in FIG. 7). In the lower hierarchy of this URL, there is "http://www.aaa.aa/member/pay/drivin" as URL of HP for DRIVING GAME (shown in FIG. 8), and "http://www.aaa.aa/member/pay/puzzle" as URL of HP for PUZZLE GAME (shown in FIG. 9). And, in the lower hierarchy of URL for PUZZLE GAME, there is URL corresponding to each toy classification further.

The authentication information 406b is the information for authenticating whether a user which accesses to HP for affiliates is a regular affiliate or not. And, the authentication information 406b is the data table for storing the toy classification, the serial number, and the password as shown in FIG. 16.

The toy data for DL 406c is the data aggregate corresponding to all the toy classification. And, The toy data for DL 406c is the data wherein the toy data of the corresponding toy classification is downloaded from HP "CATALOG". Concretely, when the user who operates the personal computer 100 specifically chooses the lower left "DOWNLOAD" button 500 among this view in HP for affiliates of the "CATALOG" shown in FIG. 6, the information of "CATALOG" is downloaded. That is, a link of a program for

downloading is stretched at the "DOWNLOAD" button 500.

And by choosing the "DOWNLOAD" button 500, the program for downloading is executed automatically and download of the toy data through the Internet is performed.

FIG. 17 shows an example of the toy data for DL 406c. In FIG. 17, the toy data of each toy classification, such as "C00", "C01", "C02", and the like, are incorporated in the toy data for DL 406c. And in executing download, only the toy data corresponding to the toy classification is downloaded. For this reason, for example, the toy data for "C01" and "C02" is stored in the stored toy data 106f in the personal computer 100 shown in FIG. 12.

The accounting information 406d is the data table which stores points required to read Charge HP as shown in FIG. 18. In this view, "1" point is stored in the accounting information 406d. In addition, individual consumption points may be assigned to contents in Charge HP, that is, to each "DRIVING GAME" and "PUZZLE GAME" in the present embodiment.

Next, the operation of the present embodiment will be explained focusing on the personal computer 100.

FIG. 19 is a flowchart showing the flow of the whole operation in the personal computer 100. In the personal computer 100, the CPU 101 makes the display section 104 display the menu screen for choosing the processing to be

executed at first, and prompts a user to select the selection of whether to execute any processing of a toy data display processing, a HP for affiliates access processing, and a Charge HP access processing, and then becomes the input waiting condition from the user (step S1). When the toy data display processing is chosen by the user, the CPU 101 reads out the toy data output program 106b from the storage section 106, and starts execution of the toy data display processing.

And if the toy 300 is laid on the reader 200 by the user (step S2), the CPU 101 will read the ID code from the toy 300 through the reader 200, or the like, by executing the toy recognition program 106a (step S3). Subsequently, the CPU 101 judges whether the toy data corresponding to the ID code read by the CPU 101 itself is present in the stored toy data 106f (step S4). And then when there is nothing, an error message is displayed on the display section 104 (step S5), and the processing by the CPU 101 is ended. When there is the toy data, the CPU 101 reads out the toy data from the stored toy data 106f (step S6). And then the CPU 101 makes the display section 104 display the image stored in the toy data, and makes the sound output section 105 output the music, sound, or the like, stored in the toy data (step S7), and the processing by the CPU 101 is ended.

Further, in step S1, when a HP for affiliates access

processing is chosen by the user, the CPU 101 executes the HP for affiliates access processing shown in FIG. 20 (step S10), and then the processing by the CPU 101 is ended. On the other hand, when the Charge HP access processing is chosen by the user, the CPU 101 executes the Charge HP access processing shown in FIG. 21 (step S20), and then the processing by the CPU 101 is ended. In these access processing, the personal computer 100 requires specified information accumulated in the server 400 (access requirements), and receives the specified information from the server 400.

FIG. 20 is a flowchart showing the operation of the HP for affiliates access processing. In execution of the HP for affiliates access processing, at first, the CPU 101 reads out the HP for affiliates access program 106c from the storage section 106, and starts execution of the HP for affiliates access processing. And when the toy 300 is laid on the reader 200 by a user (step A1), the CPU 101 will read the ID code and the password from the toy 300 through the reader 200, and the like, by executing the toy recognition program 106a (step A2). Subsequently, the CPU 101 specifies URL of HP for affiliates, which is corresponding to the read ID code from the access data 106g, and executes the processing for accessing to the specified URL on the server 400 through the communication section 108, or the like (step A3).

Subsequently, when the CPU 101 sends the ID code and password which were read in step A2 to the server 400, an authentication of the sent ID code and password is confirmed within the server 400 (step A4). When the authentication result is OK, reading to URL specified in step A3 (accurately, download of HP information from the server 400) is started (step A5). On the other hand, when the authentication result is NG, the CPU 101 judges not to be a regular affiliate, and makes the display section 104 display an error message (step A6), and then the processing by the CPU 101 is ended.

FIG. 21 is a flowchart showing the operation of the Charge HP access processing. In execution of the Charge HP access processing, at first, the CPU 101 reads out the Charge HP access program 106d from the storage section 106, and starts execution of the Charge HP access processing. And when the toy 300 is laid on the reader 200 by a user (step B1), the CPU 101 will read the ID code, the password, and the accounting information from the toy 300 through the reader 200, and the like, by executing the toy recognition program 106a (step B2).

Subsequently, the CPU 101 specifies URL of Charge HP, which is corresponding to the read ID code from the access data 106g, and executes the processing for accessing to the specified URL on the server 400 through the communication section 108, and the like (step B3).

Subsequently, when the CPU 101 sends the ID code and the password which were read in step B2 to the server 400, an authentication of the sent ID code and password is confirmed within the server 400 (step B4). When the authentication result is NG, the CPU 101 judges not to be a regular affiliate, and makes the display section 104 display an error message (step B13), and then the processing by the CPU 101 is ended. On the other hand, when the authentication result is OK, the server 400 checks the accounting information further.

That is, by sending the accounting information read in step B2 to the server 400 with the CPU 101, checking whether there is any points required to read Charge HP, is performed within the server 400 (step B5). When the server 400 judges to be impossible to read Charge HP by shortage of the points (step B6; NO), the CPU 101 receives the judgment of the server 400, and then makes the display section 104 display an error message (step B14). And the Charge HP access processing is ended.

On the other hand, when the server 400 judges to be possible to read Charge HP (step B6; YES), the CPU 101 updates the accounting information within the toy 300. In this case, the points required to read Charge HP is subtracted from the accounting information read in step B2 in accordance with the subtraction-direction from the server 400. And reading to URL specified in step B3

(accurately, download of HP information from the server 400) is started, and then the top page of Charge HP (shown in FIG. 7) is displayed on the display section 104 (step B8).

Subsequently, when a user chooses "DRIVING GAME" with the operation section 107, the CPU 101 exhibits HP of "DRIVING GAME" (shown in FIG 8) to the user, and executes "DRIVING GAME". On the other hand, when a user chooses "PUZZLE GAME" with the operation section 107, the CPU 101 exhibits HP of "PUZZLE GAME" (shown in FIG. 9) to the user, and executes "PUZZLE GAME" (steps B9 to B11).

After the processing of step B10 or B11, when the user inputs the processing to end "DRIVING GAME" or "PUZZLE GAME" with the operation section 107 (step B12; YES), the Charge HP access processing is ended. On the other hand, when the user inputs the processing not to end (step B12; NO), the processing of step B8 is performed.

Thus, in accordance with the present embodiment, the toy data and the like, which are possible to read out from the external portion of the toy 300 is stored in the toy 300 imitating the specified real automobile. The personal computer 100 provides the image information and the sound information about the real automobile or about the toy imitating the real automobile to a user in accordance with the information read out from the toy 300. Thereby, in

addition to conventional playing, such as moving the toy 300 by hand, or making the toy 300 run or operate with a motor, the new functions named the information service can be added to the toy 300. Therefore, improvement in goods appeal to the toy 300 can be realized.

Especially, the information provided to a user, such as "CATALOG HP", "PUZZLE GAME HP" shown in FIG. 13 varies according to each toy, a toy classification, or a form of a toy. Those who can read these contents are limited to the user who owns the specified toy 300. Therefore, the more contents are attractive for a user, the further the added value of the toy 300 increase. Because a user's will to collect the toy 300 can be raised by the differentiation of such an information service, it is expectable to produce user's new demand for the toy 300.

In the present embodiment, the read-out of the information stored in the toy 300 is performed using the data-carrier system, and the responder 310 is built in the toy 300. And, an image and a sound corresponding to a classification of the toy 300 or the like, are automatically displayed and outputted on the personal computer 100 to which the reader 200 is connected. Therefore, the problem about the operability of the toy or the durability thereof, which is caused when commercializing the toy 300, can be solved, and the toy 300 which even a child can easily treat can be realized.

Furthermore, because the data-carrier system has a comparatively simple structure and the cost of the part incorporated in the data-carrier system is comparatively cheap, the increase in cost of the toy 300 by adding functions to the toy 300 can be suppressed.

In addition, in the present embodiment, because of taking that a target of the toy 300 is mainly a child into consideration, an example that a data-carrier system being advantageous to a cost or durability of the toy is adopted is explained. However, the present invention is limited to this. Any technique accessible to the information of the toy 300 may be used without concerning with a contact type or contactless type. The same accessing can be realized with accessing technique of the contactless type, wherein, for example, a bar code reader reads in a bar code recorded on the surface of the toy 300 (a two-dimensional bar code is included). Besides it, a OCR (Optical DataBase Connectivity), a magnetic card, an IC card, a flash memory, a magnetic drive, a resistance sensor, or the like, may be used.

Further, if a specified object is represented with the representation technique that the appearance of the toy can remind a user of the specified object, any form of the toy 300 may be sufficient. Like the present embodiment, a model imitating a shape of an automobile represents an

object with the most popular representation technique, such as imitation of a shape. Therefore, the present invention is applicable to toys represented with the same representation technique, such as a train, a robot, a doll, a character, or the like. Further, the present invention is applicable also to a character card on which a comic character is printed. Because various forms of a character is represented on the surface of the character card which is one form of a toy, and a user can be reminded of the specified character like the case of a model. In this case, although a data-carrier, an internal memory, or the like, may be used as a storage technique that information is stored in the character card side, it is preferably to use an advantageous bar code in respect of costs.

In addition, this invention is not limited to the contents of the above-mentioned embodiment, and can be suitably changed in the range which does not deviate from the significance of this invention. For example, although the points of the accounting information decreases whenever an affiliate read Charge HP in this embodiment, the points of the accounting information may increase by getting a high score in "DRIVING GAME". Further, with the above-mentioned embodiment, the accounting information is stored in the toy 300. However, it is also possible to manage the accounting information unitarily in the server 400 by controlling the personal computer 100 with an ID of a toy

itself (toy information).

Further, the point of the accounting information may increase by performing the point addition processing as shown in FIG. 22. FIG. 22 is a flowchart showing the operation of the point addition processing in the personal computer 100. In FIG. 22, when the toy 300 is laid on the reader 200 by a user (step C1), the CPU 101 will read the ID code, the password, and the accounting information from the toy 300 through the reader 200, and the like (step C2). Subsequently, accessing to URL for point addition is performed (step C3), and then an authentication is confirmed in the server 400 (step C4). The authentication number of settlement mechanisms, such as a credit card, a debit card, or the like, is inputted further (step C5). The points increases by exchanging for predetermined moneys and the points within the toy 300 is updated (step C6). In addition, when the authentication result is NG, the CPU 101 makes the display section 104 display an error message (step C7), and then the point addition processing is ended.

The example of applying the personal computer 100 to the present invention is explained in the above-mentioned embodiment. But, besides a personal computer, a mounting table of exclusive use or the like, is also applicable to the present invention. Concretely, as shown in FIG. 23, a

kit 600 comprises a mounting table 610 itself of a diorama in which the reader 200 is built, and a display section 604 (e.g. a LCD) arranged in the back of the mounting table 610. Here, the kit 600 replaces the personal computer 100. And, when the toy 300 is laid on the mounting table 610, the toy data may be displayed on the display section 604.

Further, the above-mentioned embodiment is explained so that the toy data is updated and added by downloading through a network, such as the Internet. But the present invention may be composed so that the toy data is updated and added by a storage medium, such as a CD-ROM.

Further, the above-mentioned embodiment is explained so that one toy has one toy data. But one toy may have a plurality of toy data in the present invention. That is, when one toy has one toy data, an image of one pattern only is displayed and a sound of one pattern only is outputted. However, when one toy has a plurality of toy data, the variation of the toy data can be rich by deciding the outputted image and the outputted sound at random. The present invention is composed of so that the toy data stored in the server 400 is updated suitably, various toy data are stored in the server 400, and download of the data is possible. Further, it may be possible to change the downloaded toy data in accordance with the access time, such as daytime or night, summer or winter.

Further, although the above-mentioned embodiment is

explained so that the access data 106g is stored in the personal computer 100, URL or the like about the access data 106g may be stored in the toy 300. That is, URL about the toy 300 is stored in the memory 318 of the responder 310 which the toy 300 have, and accessing to HP according to URL stored in the toy 300 may be performed by the personal computer 100. In that case, the personal computer 100 does not require to store the access data 106g, and the toy 300 and URL can be treated as one. Therefore, the management of URL corresponding to the toy 300 becomes easy.

Furthermore, in this case, all the information required to log in the Internet, such as an e-mail address, a telephone number of access-point of a provider may be stored in the toy 300.

Note that all kinds of above-mentioned variation may be applicable also to below-mentioned embodiments suitably.

#### Second embodiment:

FIG. 24 is an explanation view of the information service system according to the second embodiment. The present embodiment relates to an advertisement technique in which the toy 300 is used. The marks which represents a specified business unit (for example, a company name of the specified business unit, a CI, a character, or the like) is attached to the appearance of the toy 300. Therefore, the

appearance of the toy 300 can remind a user of the specified business unit. As one example, as shown in FIG. 24, an expression company name and a character having an appearance that a user is reminded of are printed at a side of the toy 300 imitating a truck. Further, URL of HP about the expression company is stored in the toy 300 as the access information.

As an information service system being a user service system, the personal computer 100 and the reader 200 which are mentioned in the first embodiment can be used. The program mentioned in the first embodiment is installed in the personal computer 100 (fundamentally similar also to the below-mentioned embodiment). When a user lays the toy 300 for advertisement on the reader 200, the access information stored in the toy 300 (URL) will be read out to the personal computer 100. And then the personal computer 100 accesses the information of the server 400 specified by the read-out information. Consequently, HP of the expression company is displayed on the display section of the personal computer 100, and the advertisement information about the expression company is provided to a user.

Thus, with the present embodiment, the toy 300 has an appearance that a user is reminded of a specified business unit. Besides it, the access information stored in the toy 300 is related to an address of the advertisement

information about the business unit on a network.

Therefore, the related information about the business unit on a network can be effectively provided to a user who owns the toy 300 for advertisement. Consequently, the advertisement effects as the toy 300 for advertisement can be improved.

**Third embodiment:**

FIG. 25 is an explanation view of the information service system according to the third embodiment. The present embodiment relates to a setting technique of a network environment using the toy 300. Generally, a user who utilizes the Internet, or the like, needs to contract with a provider which offers a network service beforehand. If a new user provides a provider with private information and performs an application of a service entry, the toy 300 will be sent to the user from the provider.

This toy 300 is a figure which has a shape of a character peculiar to the provider. The figure has an appearance that the user is reminded of the provider. Further, environmental setting information required to set a network environment is stored in the toy 300. This environmental setting information include the information for dial-up connection and the information for an individual authentication, such as a user name, a DNS server address, a mail address, a receiving mail server (a

POP server), a transferring mail server (an SMTP server), an initial password peculiar to a user.

As an information service system being a user service system, the personal computer 100 and the reader 200 which are mentioned in the first embodiment can be used. The program to execute the processing shown in FIG. 26 is installed in the personal computer 100. At first, a user lays the toy 300 on the reader 200. By this, the environmental setting information stored in the laid toy 300 is read out from the reader 200 in step S101. And then, in the step S102, the parameter setting required to connect the personal computer 100 to a network is automatically performed in accordance with the read-out environmental setting information.

After setting network environment with above procedure, only by user's laying the toy 300 which has a shape of a figure on the reader 200, a dial-up connection is established automatically and the network service can be provided to a user.

Thus, with the present embodiment, various kinds of information required to set a network environment of the personal computer 100 is stored in the toy 300 for setting network. And a network setting felt intricate and difficult for some users is automatically performed only by laying this toy 300 on the reader 200. Therefore, the user's convenience in the difficult or unfamiliar work of

operating a computer and inputting an ID can be raised remarkably. As this result, it is expectable for a provider to increase service applicants of users to the provider. Further, because the toy 300 has a shape of a figure which can remind a user of the toy 300 itself, it is also expectable for a provider to realize an advertisement effect.

#### Fourth embodiment:

The fourth embodiment will be explained in respect of a registration technique of a user catalog of a toy, which has collection nature. The case in which the automobile model (a miniature car) shown in the first embodiment is used will be explained in the present embodiment. But a figure, a character card, or the like, which represent various kinds of forms of a character, or the like, are also applicable to the present embodiment.

FIG. 27 is a flowchart showing the collection registration processing in the personal computer 100. In advance of a collection registration, a user lays the toy 300 that the user wants to register on the reader 200. By this, the personal computer 100 reads out the toy information shown in FIG. 10B and 10C from the laid toy 300 (step S201). Next, toy classification which classifies a classification of the toy 300 is newly added to a collection file (step S202). The personal computer 100

being a client side has the collection file. This collection file is the file for managing the classification of the toy 300 which a user owns. And, the personal computer 100 sends the information about the updated collection file to the server 400 (step S203).

The server 400 receiving this information recognizes the collection information from the client side and makes the personal computer 100 display the toy collection screen shown in FIG. 28. In this view, a toy classification which a user do not own is displayed as a blank.

Thus, in the present embodiment, because the classification of the toy 300 which a user owns is managed by the collection file, the user can read the present owning condition (owning classification, not owning classification) easily. Therefore, a collection will of a user which is described as an effect of the first embodiment can be raised further.

In addition, although, in the fourth embodiment, the management of the collection of a user is performed in the personal computer 100, this management may be performed in the server 400. Concretely, the collection database which unitarily manages each user's collection is prepared in the server 400. Each user's collection information (including a classification of the toy 300 which a user owns) is described in one record within this database (a collection record). When the server 400 receives an updating demand of

a collection from the personal computer of a certain user, the server 400 searches a collection database and extracts a record about the user. And the server 400 updates the information described at the record in accordance with the received data from the personal computer 100. By this, the server 400 can unitarily manage the collection of the toy 300 which each user owns at present.

Furthermore, a record medium on which the computer program which realizes functions of each above-mentioned embodiment is recorded, may be supplied to the personal computer 100 being an information service device. In this case, an object of the present invention is achieved by reading and executing the computer program stored in the record medium. Therefore, because the computer program itself read from the record medium realizes novel functions of the present invention, the record medium on which the program is recorded constitutes the present invention. As the record medium on which the computer program is recorded, for example, a CD-ROM, a floppy disk, a hard disk, a memory card, an optical disk, a DVD-ROM, or the like, are mentioned. Further, the computer program itself which realizes functions of each above-mentioned embodiment also comprises novel functions.

According to the present invention, when the toy information is detected by the reader, the information

service device provides the corresponding related information to a user automatically. Therefore, an effort of an operation of the information service device reduces and even a child can know the related information easily. Further, by treating the related information as the information for introducing the real which the toy imitates and for introducing the toy itself, an interesting image or sound for stirring up a user's imagination can be provided to users (which are mainly children) who own the toy. Further, because the toy comprises the responder in the contactless data-carrier system, a user can be satisfied with durability of the toy and a price thereof.

The entire disclosure of Japanese Patent Applications No. Tokugan 2000-174078 filed on June 9, 2000, and No. Tokugan 2000-398733 filed on December 27, 2000 including specification, claims, drawings and summary are incorporated herein by reference in its entirety.

What is claimed is:

1. An information service system comprising:  
a toy for storing toy information;  
a reader for detecting the toy information  
transmitted by the toy via a contactless data-carrier  
system; and  
an information service device for obtaining related  
information about the toy by accessing an external storing  
section in accordance with the toy information detected by  
the reader to provide the related information to a user.
2. The information service system as claimed in  
claim 1, wherein the information service device provides  
the related information to a user by using at least one of  
an image and a sound.
3. The information service system as claimed in  
claim 1 or 2, wherein the reader comprises an interrogator  
in the contactless data-carrier system, and the toy  
comprises a responder in the contactless data-carrier  
system and a storage medium for storing the toy  
information.
4. The information service system as claimed in  
claim 1, wherein accounting information is further stored  
in the toy, and the information service device accesses the

external storing section in accordance with the toy information and the accounting information.

5. The information service device as claimed in claim 1, wherein the related information is obtained by accessing homepage information exhibited on the Internet in accordance with the toy information.

6. An information service system comprising:  
a storage medium storing one of log-in information and party address information;

a reader for detecting the one of the log-in information and the party address information transmitted by the storage medium via a contactless data-carrier system; and

an information service device for obtaining related information about the storage medium by accessing homepage information exhibited on the Internet in accordance with the one of the log-in information and the party address information to provide the related information to a user.

7. A server for providing related information to an information service device for obtaining the related information by accessing a server, wherein the related information is obtained from predetermined homepage information exhibited on the Internet.

8. An information service system for carrying out information communications between an information service device and a server through a network, comprising:

a toy having an appearance that a user is reminded of a specified object, for storing access information which is readable out from an external portion of the toy;

a server for accumulating information about the specified object or about the toy; and

an information service device for providing related information about the specified object or about the toy to a user by reading out the access information stored in the toy and by accessing the server which stores a plurality of addresses of the related information, the address being identified by the read-out access information.

9. The information service system as claimed in claim 8, wherein the information service device comprises an interrogator in a contactless data-carrier system, and the toy comprises a responder for carrying out data communications with the interrogator.

10. The information service system as claimed in claim 8 or 9, wherein the access information which varies with a classification of the toy or a form of the toy is stored in the toy, information which varies with the

classification of the toy or the form of the toy is accumulated in the server, and the related information which is provided to a user by the information service device varies with the classification of the toy or the form of the toy.

11. The information service system as claimed in claim 8 or 9, wherein the appearance of the toy reminds a user of the specified object, and the related information which is provided to a user by the information service device is one about the specified object.

12. A toy having an appearance that a user is reminded of a specified object comprising:

a storing section for storing predetermined access information; and

a controlling section for controlling the storing section in order to output the access information which is stored in the storing section;

wherein the access information is related to an address of information about the specified object or about the toy, which is accumulated in a server which exists on a network.

13. The toy as claimed in claim 12, wherein the controlling section comprises a responder in a contactless

data-carrier system.

14. The toy as claimed in claim 12 or 13, wherein the access information which varies with a classification of the toy or a form of the toy is stored in the storing section, and the address of the information to be accessed which is accumulated in the server is specified in accordance with a corresponding relationship between the access information and the address, which is previously set in an external system side for reading out the access information.

15. The toy as claimed in claim 12 or 13, wherein the access information is the address of the information to be accessed, which is accumulated in the server.

16. The toy as claimed in any one of claims 12 to 15, wherein the access information varies with a classification of the toy or a form of the toy.

17. The toy as claimed in any one of claims 12 to 15, wherein the appearance of the toy reminds a user of the specified object, and the access information is related to the address of the information about the specified object, which is accumulated in the server which exists on the network.

18. The toy as claimed in claim 12 or 13, wherein authentication information for authenticating a user when the information accumulated in the server which exists on the network is accessed, is stored in the storing section.

19. The toy as claimed in claim 12 or 13, wherein accounting information controlling that a user accesses the information accumulated in the server exists on the network, is stored in the storing section.

20. A toy having an appearance that a user is reminded of a specified provider for providing a network service, comprising:

a storing section for storing setting information set on a user's terminal in order to receive the network service provided by the provider; and

a controlling section for controlling the storing section in order to output the setting information stored in the storing section to an external portion of the toy.

21. An information service device for providing information to a user by carrying out information communications between a plurality of servers through a network, comprising:

a controlling section for reading out access

information recorded in a toy from the toy having an appearance that the user is reminded of a specified object; and

a communicating section for receiving information from a server in accordance with an address specified by the read-out access information in order to provide related information about the specified object or about the toy to the user.

22. The information service device as claimed in claim 21, wherein the controlling section comprises an interrogator in a contactless data-carrier system.

23. A server for specifying an address on a network by access information recorded in a toy having an appearance that a user is reminded of a specified object, comprising:

a storing section for accumulating information about the specified object or about the toy; and

a communicating section for sending the information accumulated in the storing section to a user system in accordance with a demand outputted from the user system which reads out the access information recorded in the toy.

24. An information service method for providing information to a user by carrying out information

communications between a plurality of servers through a network, comprising the steps of:

reading out access information recorded in a toy from the toy having an appearance that a user is reminded of a specified object;

demanding information accumulated in a server in accordance with an address specified by the read-out access information; and

providing related information about the specified object or the toy to a user in accordance with the demanded information outputted from the server.

25. A record medium for recording a program for executing a information service method for providing information to a user by carrying out information communications between a plurality of servers through a network, comprising the steps of:

reading out access information recorded in a toy from the toy having an appearance that a user is reminded of a specified object;

demanding information accumulated in a server in accordance with an address specified by the read-out access information; and

providing related information about the specified object or the toy to a user in accordance with the demanded information outputted from the server.

26. An information service system substantially as herein described with reference to and as illustrated in the accompanying drawings.

27. A server for providing information to an information service device  
5 substantially as herein described with reference to and as illustrated in the accompanying drawings.

28. A toy according to Claim 12 or 20 substantially as herein described with reference to and as illustrated in the accompanying drawings.

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29. A server according to Claim 23 substantially as herein described with reference to and as illustrated in the accompanying drawings.

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30. An information service method substantially as herein described with reference to the accompanying drawings.

31. A record medium according to Claim 25 substantially as herein described with reference to the accompanying drawings.



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Claims searched: 1 to 5, 8 to 31

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**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): None

Int Cl (Ed.7): A63H, G06F 15/173

Other: Online: WPI, EPODOC, PAJ, TXTE

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2275207 A (TYCO) See page 15, line 23 to page 22, line 17.	1 to 3.
X	KR 99068318 A (KWON) See WO 00/57977 and WPI Abstract, Accession Number 2000-555985.	1 to 3.
X, P	US 2001/0021950 A1 (HAWLEY et al.) See whole document.	1 to 5, 8 to 25.

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
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